

SAO Special Report No. 95

CATALOG OF PRECISELY REDUCED OBSERVATIONS

No. P-4

Prepared by Katherine Haramundanis

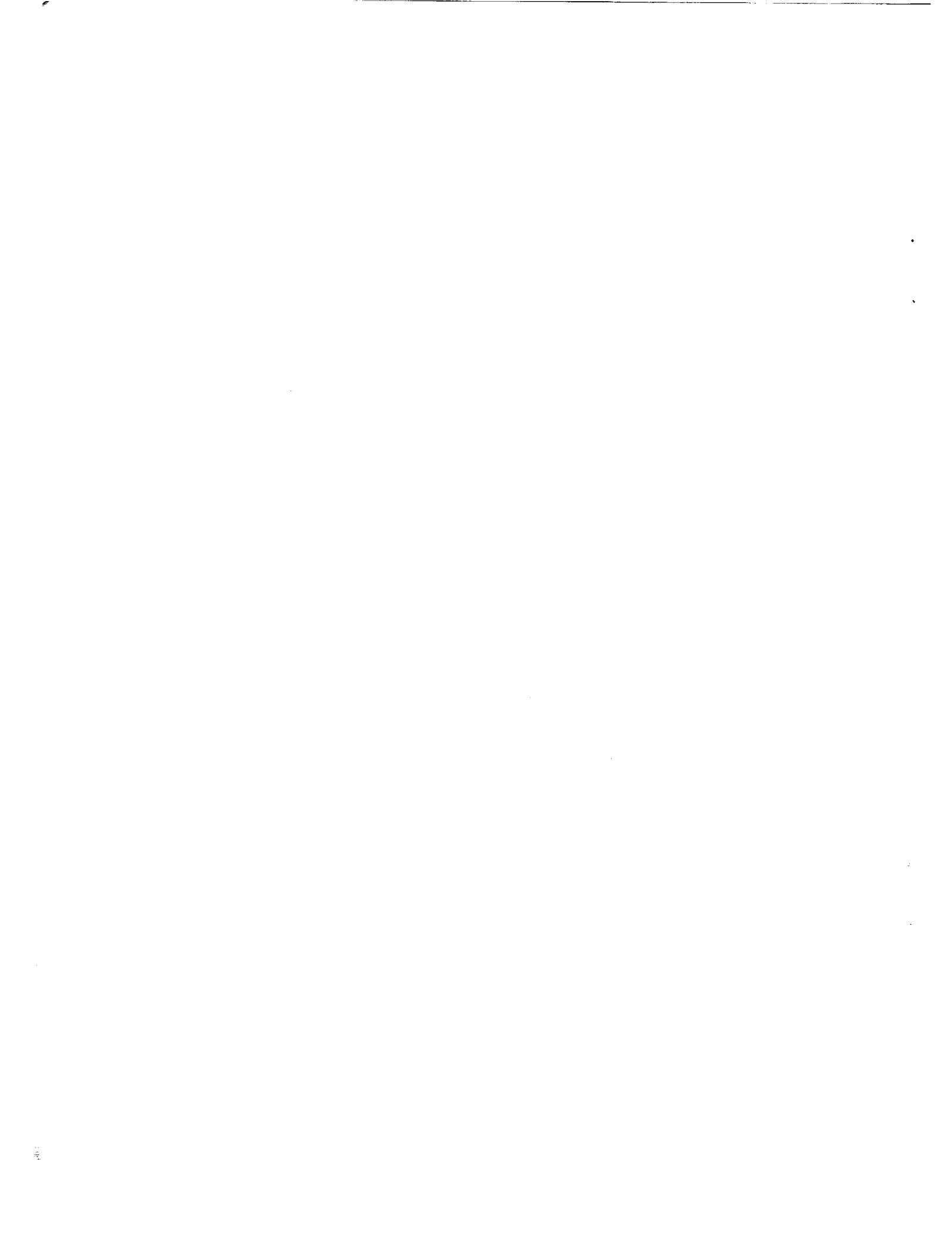
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INTRODUCTION¹

This catalog is the fourth in the series of SAO Special Reports listing the positions of artificial satellites as obtained by the SAO Photoreduction Division from the precise reduction of the films taken at the 12 Baker-Nunn Camera Stations. These catalogs appear regularly and in the same form, each covering periods of six months of observations on satellites tracked by the Observatory. Each catalog includes all precisely reduced observations made during that period that have been checked and found to be without significant errors.

Approximately 20,000 observations have now been reduced, and about 1500 new reductions are completed each month. These observations can be independently checked by determining their residuals from the best obtainable orbits. In practice, however, this is not so simple since the best orbits can be obtained only by the use of the same observations that are being checked. Thus we compute orbits regularly from only the precisely reduced observations, and correct those that deviate considerably from the orbits. Finally, the positions are used again to test whether or not their new residuals meet standards for publication.

Only orbits with a standard deviation σ of one observation not exceeding $\pm 20''$ are used as reference; on the average, the standard deviation is only between $\pm 5''$ and $\pm 10''$. All observations with residuals larger than $\pm 10''$ are examined to find whether the error is due to the observation or to the poor accuracy of the orbit.

The present catalog includes 993 observations of Satellite 1959 Eta (Vanguard III) and 1180 observations of Satellite 1960 z2, (rocket of Echo I). All reliable observations reduced for the periods listed in the Table of Contents have been listed.

¹This work was supported by a grant from the National Aeronautics and Space Administration.

All the observations in this catalog have been checked by the procedure described above, and have small residuals with respect to the obtained orbits. The mean orbital elements obtained from them will published shortly in a separate SAO Special Report.

The observations were reduced by the method explained by the late K. Lassovszky in SAO Special Report 41 (Lassovszky et al., 1960). Most of the measurements have been made with two-screw comparators of the Mann type, although a few early reductions were made with the Van Biesbroeck photo-goniometer. The time reduction was made essentially by the method described by E. Weston in Special Report 41 (Lassovszky et al., 1960).

Although it has been proved that the Baker-Nunn cameras can achieve an accuracy better than $\pm 2''$ in the positions (Lassovszky, 1961), the average results are not so good. This difference is most apparent in observations made during the beginning of the program, when both the observing and the film-reduction techniques were not yet well developed. Until every position can be given with its proper uncertainty as obtained from the reduction, a standard deviation of $\pm 4''$ is assigned to all positions determined with the Mann comparator, and $\pm 10''$ for all those made with the photo-goniometer. Although these values should reasonably represent the real deviations, they should be used only as an indication of the accuracy.

The time accuracy of the observations depends primarily on the stability of the station clock and on the reception of the time signals. Uncertainties have been estimated according to these criteria; they vary from ± 0.5 msec to ± 20 msec, with an average value of ± 2 msec.

An additional error in the timing arises from a maladjustment in the centering of the rotating focal-plane shutter that fires the strobe for the photographic recording of the time. This error, although it tends to be systematic for a particular camera, varies in time and according to the cycle period used. Since October 1960, all cameras have been equipped with a special calibration device to determine the real position of the shutter at the time that the strobe light fires. Since observations made before these calibrators were installed could not be corrected for this effect, a statistical analysis was made of the errors determined after this installation; the standard deviation characteristic that was thus obtained for each camera was added to the previously determined time uncertainties. All observations of films taken prior to the installation of the shutter calibrators are reported to .001; all more recent observations, to .0001.

The format of the catalog is as follows:

The first column gives the year, month and day of the observation.

The second column gives the time of the observation in hours, minutes and seconds in the A-1 (Atomic Time) system (Bulletin of the Naval Observatory, 1959). Due to a misinterpretation of A-1 data, a correction of +^s.0008 should be applied to all times for films taken prior to January 1, 1961.

The third column gives the root mean-square (standard error) of the time expressed in milliseconds.

The fourth gives the topocentric right ascension expressed in hours, minutes and seconds of time; and the fifth, the topocentric declination in degrees, minutes and seconds of arc. These positions refer to the mean equator and equinox of 1950.0. Since the reference stars were not reduced to a common catalog system, it is not easy to define the R.A. and Decl. system. The errors that result from not using a common reference system are certainly less than one second of arc; Special Report 41 (Lassovszky et al., 1960) gives a list of the star catalogs used, arranged according to the declination zone of each. The positions have not been corrected for parallactic refraction (this correction will hardly ever exceed 2 seconds of arc).

The sixth column gives the standard error (RMS) of the position expressed in seconds of arc, always four or ten in this catalog.

The seventh column gives the number and name of the Baker-Nunn station; the name is occasionally abbreviated. The positions of the stations are given in SAO Special Report 59 (Veis, 1961).

The eighth column gives the film and frame number.

The ninth column gives in abbreviation the name of the measurer.

The tenth column gives the observation number assigned by SAO.

This catalog is the result of the work of many members of the staff of the Satellite Tracking Program of the Smithsonian Astrophysical Observatory, who contributed in different capacities. The laborious final checking and preparation for publication were done by Mrs. Kathy Haramundanis, Mrs. Linda Simons, and Miss Phyllis Stern.

May, 1962

References

BULLETIN OF THE NAVAL OBSERVATORY

1959. Time Service, Notice No. 6. U.S. Naval Observatory,
Washington, D.C., 3 pp.

LASSOVSZKY, K.

1961. On the accuracy of measurements made upon films photographed
by Baker-Nunn satellite tracking cameras. Smithsonian
Astrophys. Obs., Special Report No. 74, 16 pp.

LASSOVSZKY, K., et al.

1960. Catalogue of precise satellite positions. Smithsonian
Astrophys. Obs., Special Report No. 41, 37 pp.

VEIS, G.

1961. The positions of the Baker-Nunn camera stations. Smithsonian
Astrophys. Obs., Special Report No. 59, 5 pp.

Satellite 1959 Eta

DATE Y M D	TIME (A-1) H M S	RMS MS	R.A.(1950.0)			DEC.(1950.0)			STATION D M S	FRAME NO.	MS	OBS. NO.	
			H	M	S	D	M	S					
1960 7 1	2 19 40.242	3	14	0	20.10	-31	25	19.4	4	9007 AREQUIPA	1879 12	FN	
7 1	7 21 27.854	3	22	54	37.77	-40	40	49.0	4	9007 AREQUIPA	1881 5	SL	
7 1	23 49 50.772	3	14	41	31.69	-30	27	27.9	4	9007 AREQUIPA	1884 2	RS	
7 1	23 51 32.009	3	15	27	37.97	-8	28	29.0	4	9007 AREQUIPA	1884 13	RS	
7 1	0 41 50.997	1	22	46	1.75	-21	4	48.1	4	9002 OLFANTSFTN	1905 4	GN	
7 2	0 42 49.470	1	23	5	12.62	-18	20	48.1	4	9002 OLFANTSFTN	1905 8	GN	
7 2	0 44 30.634	1	23	36	29.92	-13	28	49.8	4	9002 OLFANTSFTN	1905 14	GN	
7 2	9 31 8.599	3	22	16	50.94	-10	45	14.9	4	9007 AREQUIPA	1890 23	RI	
7 3	0 34 0.997	1	23	31	15.10	-11	12	20.2	4	9002 OLFANTSFTN	1910 7	RW	
7 3	0 36 43.477	1	0	14	37.71	-3	45	2.8	4	9002 OLFANTSFTN	1910 19	RW	
7	1 55 19.703	3	12	30	22.71	-23	25	12.7	4	9007 AREQUIPA	1896 6	FN	
7	1 57 14.824	3	13	11	10.71	-31	5	46.0	4	9007 AREQUIPA	1896 12	FN	
7 3	9 21 53.395	3	22	40	33.15	-3	17	27.6	4	9007 AREQUIPA	1899 27	FN	
7 3	9 24 45.340	3	23	47	37.24	8	36	10.4	4	9007 AREQUIPA	1899 34	FN	
7 3	10 36 56.4938	1	15	59	22.72	-4	3	11.8	4	9003 WOOMERA	2992 28	ZL	
7	17 52 20.0500	1	21	58	44.37	-5	30	20.4	4	9003 WOOMERA	2994 3	SA	
7 3	23 33 45.304	1	15	24	41.46	6	43	42.5	4	9011 V.DOLORES	1244 12	DD	
7 3	23 35 40.779	1	16	8	20.36	-0	4	9.7	4	9011 V.DOLORES	1244 19	DD	
7 7	8 38 30.820	3	21	57	55.01	3	14	1.2	4	9007 AREQUIPA	1911 14	SA	
7 7	9 51 46.9074	1	14	11	38.63	2	34	41.6	4	9003 WOOMERA	3C ; 5	DD	
7	17 52 20.0500	1	14	33	20.27	-2	39	1.0	4	9003 WOOMERA	3 3 13	CA	
7 7	9 43 31.4763	1	15	17	47.61	-8	14	18.4	4	9003 WOOMERA	3 3 23	CA	
7 9	18 17 38.057	1	15	50	40.00	-31	20	42.6	4	9011 V.DOLORES	1 6 16	FI	
7 9	18 17 50.445	1	14	19	3.52	-39	40	42.9	4	9002 OLFANTSFTN	1930 3	RP	
7	9 42 11.0148	1	14	35	53.12	-40	50	36.6	4	9002 OLFANTSFTN	1930 8	RP	
7 8	9 43 31.4763	1	15	17	47.61	-9	36	24.4	4	9012 MAUI	2222 14	ZL	
7 9	18 17 38.239	1	15	50	42.04	-41	52	43.6	4	9002 OLFANTSFTN	1934 7	FN	
7 9	18 17 50.445	1	14	27	33.70	-40	17	21.0	4	9002 OLFANTSFTN	1934 10	FN	
7	18 18 2.4666	1	14	35	53.12	-40	50	36.6	4	9002 OLFANTSFTN	1934 13	RI	
7 10	14 50 51.7558	1	1	0	45	2.72	-9	36	24.4	4	9012 MAUI	2230 19	DD
7 10	18 7 12.502	1	14	17	19.98	-41	52	43.6	4	9002 OLFANTSFTN	1941 2	CA	
7 10	18 7 39.912	1	14	37	53.58	-43	6	28.0	4	9002 OLFANTSFTN	1941 4	CA	
7 10	18 8 7.876	1	14	59	5.28	-44	6	51.6	4	9002 OLFANTSFTN	1941 8	CA	
7 12	14 28 23.5839	1	23	58	47.90	-7	26	38.1	4	9012 MAUI	2238 4	FI	
7 11	14 40 9.4503	1	0	33	17.93	-6	54	4.2	4	9012 MAUI	2238 17	FI	
7 11	17 56 15.721	1	13	50	41.75	-42	23	16.8	4	9002 OLFANTSFTN	1941 31	FI	
7 11	17 56 23.817	1	13	57	4.74	-42	50	42.8	4	9002 OLFANTSFTN	1947 7	LW	
7 11	17 56 54.539	1	14	21	48.63	-44	22	1.6	4	9002 OLFANTSFTN	1947 9	LW	
7 12	17 47 21.199	1	15	7	5.20	-47	58	9.8	4	9002 OLFANTSFTN	1947 14	LW	
7 12	14 29 33.2895	1	0	25	9.30	-3	48	44.6	4	9012 MAUI	2238 17	FI	
7 12	14 30 54.5986	1	0	57	44.89	0	33	56.1	4	9012 MAUI	2238 31	FI	
7 12	17 46 20.346	1	14	12	57.54	-46	3	29.6	4	9002 OLFANTSFTN	1947 7	LW	
7 12	17 46 45.030	1	14	34	53.53	-47	1	34.2	4	9002 OLFANTSFTN	1947 9	LW	
7 12	17 47 21.199	1	15	7	5.20	-47	58	9.8	4	9002 OLFANTSFTN	1947 14	LW	
7 12	14 29 33.2895	1	13	46	57.09	-33	50	27.2	4	9003 WOOMERA	3038 23	ZL	
7 13	11 7 51.8761	1	14	8	24.92	-35	19	15.0	4	9003 WOOMERA	3038 26	ZL	
7 13	11 8 22.3000	1	14	12	57.54	-46	3	29.6	4	9003 WOOMERA	3046 6	DD	
7 14	10 56 13.3598	1	12	52	17.29	-30	40	50.1	4	9003 WOOMERA	3046 18	DD	
7 14	10 59 6.1627	1	15	1	29.88	-38	44	0.5	4	9003 WOOMERA	3046 33	DD	
7 14	11 1 45.0559	1	16	58	12.87	-38	11	52.8	4				

1-14 Ju 1960

Satellite 1959 Eta

14-21 July 1960

DATE Y M D	TIME (A-1)			R.A.(1950.0) H M S			RMS D M S			DECL.(1950.0) D M S			STATION			FRAME NO.			MS			OBS. NO.
	RMS	MS		H	M	S	D	M	S	H	M	S	WOMERA	WOOMERA	MAUI	2253	21	ZL	5868			
1960 7 14	17 24	53.789		1	13	31	45.47	-48	20	2.4	4	9002	OLFANTSFTN	1952	3	MZ	3854					
7 14	17 25	18.252	1	13	57	5.73	-49	35	50.6	4	9002	OLFANTSFTN	1952	5	MZ	3853						
7 14	17 25	26.259	1	14	5	31.44	-49	56	9.8	4	9002	OLFANTSFTN	1952	7	MZ	3858						
7 16	10 38	17.5991	1	15	7	56.70	-40	15	53.4	4	9003	WOOMERA	3055	30	SA	5435						
7 16	11 26	43.6230	1	23	54	3.14	-15	20	24.1	4	9012	MAUI	2250	11	DD	5437						
7 16	13 46	17.2869	1	23	43	48.26	6	8	1.8	4	9012	MAUI	2253	21	ZL	5868						
7 16	17 3	58.430	1	13	13	17.41	-51	59	36.8	4	9002	OLFANTSFTN	1964	7	CA	3849						
7 16	17 4	36.439	1	14	0	53.67	-53	47	37.8	4	9002	OLFANTSFTN	1964	14	CA	3850						
7 16	19 22	42.674	1	14	18	10.38	-45	1	48.3	4	9002	OLFANTSFTN	1967	7	RS	7167						
7 17	10 24	55.5069	1	12	26	47.58	-33	24	10.9	4	9003	WOOMERA	3059	3	DD	5438						
7 17	10 28	5.9735	1	15	23	15.21	-40	44	58.7	4	9003	WOOMERA	3059	26	DD	5439						
7 17	10 29	57.4337	1	16	55	21.56	-37	54	57.9	4	9003	WOOMERA	3059	40	DD	5440						
7 17	16 54	3.359	1	13	46	31.29	-55	23	49.5	4	9002	OLFANTSFTN	1970	8	F1	6864						
7 17	23 24	15.194	1	13	4	41.64	-34	8	5.6	4	9011	V.DOLORES	1285	11	DD	5179						
7 17	23 27	42.036	1	16	27	28.10	-36	23	10.1	4	9011	V.DOLORES	1285	22	DD	5180						
7 17	23 30	4.697	1	17	55	43.14	-30	24	58.0	4	9011	V.DOLORES	1285	28	DD	5181						
7 18	1 43	1.642	1	14	33	54.29	-29	4	51.7	4	9011	V.DOLORES	1287	12	RI	5607						
7 18	16 43	11.585	1	13	0	50.83	-55	57	50.3	4	9002	OLFANTSFTN	1974	3	DD	4817						
7 18	16 44	8.041	1	14	27	18.06	-57	43	3.1	4	9002	OLFANTSFTN	1974	9	DD	4818						
7 18	19 2	27.228	1	14	47	42.29	-45	44	10.0	4	9002	OLFANTSFTN	1978	5	GN	4682						
7 18	19 2	39.261	1	14	57	27.13	-45	47	24.2	4	9002	OLFANTSFTN	1978	8	GN	4681						
7 18	23 14	15.852	1	13	24	53.46	-36	34	28.9	4	9011	V.DOLORES	1292	16	DD	5182						
7 18	23 16	28.585	1	15	49	5.49	-37	48	36.0	4	9011	V.DOLORES	1292	24	DD	5183						
7 18	23 17	32.398	3	14	51	43.78	-64	11	49.9	4	9007	AREQUIPA	1983	21	SA	5869						
7 19	13 12	4.8765	1	22	48	54.39	9	1	11.1	4	9012	MAUI	2259	10	CA	5870						
7 19	18 52	35.713	1	15	18	28.37	-45	16	4.7	4	9002	OLFANTSFTN	1983	3	MZ	4683						
7 20	1 23	9.668	3	22	9	51.83	-26	44	19.3	4	9011	V.DOLORES	1303	14	RI	6105						
7 20	8 33	52.2783	1	22	45	7.63	-20	32	35.1	4	9001	ORGAN PASS	2256	4	RI	6865						
7 20	8 36	26.6619	1	23	39	34.24	-15	39	4.0	4	9001	ORGAN PASS	2256	10	RI	6866						
7 20	8 39	15.4693	1	23	25	14.31	-10	9	29.5	4	9001	ORGAN PASS	2256	17	RI	6867						
7 20	8 42	24.4844	1	0	11	52.72	-4	9	8.2	4	9001	ORGAN PASS	2256	24	RI	6868						
7 20	8 49	21.1331	1	0	14	26.03	19	42	7.3	4	9010	JUPITER	1576	19	FN	5442						
7 20	8 49	45.1389	1	0	24	17.62	20	33	30.6	4	9010	JUPITER	1576	22	FN	5443						
7 20	10 59	49.1820	1	23	39	34.24	11	3	32.6	4	9001	ORGAN PASS	2259	8	DD	5444						
7 20	11 1	39.0869	1	0	22	45.58	14	53	11.1	4	9001	ORGAN PASS	2259	20	DD	5445						
7 20	11 3	31.8203	1	1	11	59.86	18	14	46.2	4	9001	ORGAN PASS	2259	30	DD	5446						
7 20	18 43	10.282	1	16	12	33.62	-42	44	18.5	4	9002	OLFANTSFTN	1989	4	F1	4684						
7 20	18 43	36.015	1	16	33	0.80	-41	35	23.8	4	9002	OLFANTSFTN	1989	6	F1	4685						
7 21	1 59	23.2005	1	23	17	4.39	-11	26	28.4	4	9004	S.FERNANDO	2064	10	DD	5447						
7 21	2 1	5.4373	1	23	41	42.36	-8	24	32.6	4	9004	S.FERNANDO	2064	15	DD	5448						
7 21	8 38	7.8236	1	23	59	34.26	20	51	22.8	4	9010	JUPITER	1583	16	MZ	4123						
7 21	8 38	39.8216	1	0	12	20.71	21	57	37.6	4	9010	JUPITER	1583	20	MZ	4122						
7 21	8 40	0.6370	1	0	45	51.67	24	26	37.8	4	9010	JUPITER	1583	25	MZ	4121						
7 21	18 31	31.012	1	15	10	46.71	-43	58	51.2	4	9002	OLFANTSFTN	1995	4	F1	4686						
7 21	18 32	42.793	1	16	14	31.15	-41	25	6.2	4	9002	OLFANTSFTN	1995	12	F1	4688						

Satellite 1959 Eta

21-26 July 1960

DATE Y M D	TIME H M S	TIME (A-1)			R.A.(1950.0) H M S			DEC(L1950.0) D M S			STATION			FRAME NO.		OBS.NO.
		RMS	MS	H M S	D	M	S	D	M	S	STATION	FRAME NO.	MS	FRAME NO.	MS	
1960 7 21	18 33 24.608	1	16 47 38.62	-39 8 0.3	4	9002	OLFANTSFTN	1995 16	F1	4689						
7 21	22 42 12.803	3	11 58 20.18	-35 3 46.6	4	9011	V.DOLORES	1308 14	FN	8604						
7 21	22 44 34.828	3	15 10 52.66	-39 12 45.0	4	9011	V.DOLORES	1308 23	FN	8605						
7 22	1 2 12.398	3	15 14 46.99	-23 21 18.8	4	9011	V.DOLORES	1310 8	DD	5449						
7 22	1 48 19.5841	1	23 8 51.36	-9 51 22.6	4	9004	S.FERNANDO	2069 10	ZL	4135						
7 22	6 3 38.9661	1	22 52 48.58	-7 42 8.6	4	9010	JUPITER	1588 12	FN	5450						
7 22	6 7 38.7130	1	23 48 4.51	0 21 8.0	4	9010	JUPITER	1588 27	FN	5451						
7 22	8 27 9.5477	1	23 51 54.37	22 32 31.9	4	9010	JUPITER	1591 51	LW	3614						
7 22	8 28 48.9943	1	0 31 48.68	25 33 15.4	4	9010	JUPITER	1591 58	LW	3615						
7 22	8 30 6.3597	1	1 4 15.68	27 22 22.6	4	9010	JUPITER	1591 61	LW	3616						
7 22	9 36 23.0218	1	15 59 9.68	-39 9 49.6	4	9003	WOOMERA	3083 14	DD	5609						
7 23	0 50 10.218	3	13 56 9.62	-22 55 6.7	4	9011	V.DOLORES	1314 11	FN	8606						
7 23	1 35 42.4932	10	22 39 18.71	-11 4 23.3	4	9004	S.FERNANDO	2077 8	ZL	5871						
7 23	1 37 49.0546	1	23 8 59.62	-7 17 19.2	4	9004	S.FERNANDO	2077 14	ZL	5872						
7 23	1 39 55.6102	1	23 39 31.88	-3 38 30.9	4	9004	S.FERNANDO	2077 20	ZL	5873						
7 23	4 0 28.0473	1	0 17 32.10	14 23 22.6	4	9004	S.FERNANDO	2078 14	GN	4341						
7 23	8 15 25.1517	1	23 27 52.99	22 41 10.6	4	9010	JUPITER	1601 36	LO	4131						
7 23	8 17 58.3555	1	0 27 40.59	27 11 9.4	4	9010	JUPITER	1601 44	LO	4130						
7 23	9 24 7.1224	1	13 31 30.62	-42 24 33.3	4	9003	WOOMERA	3088 12	CA	4110						
7 23	9 24 54.5272	1	14 40 53.28	-42 3 43.6	4	9003	WOOMERA	3088 23	CA	4109						
7 23	9 27 2.7024	1	16 59 30.37	-33 7 55.4	4	9003	WOOMERA	3088 33	CA	4108						
7 23	11 43 34.0143	1	15 35 1.55	-16 48 38.9	4	9003	WOOMERA	3090 18	SR	7487						
7 23	11 43 38.0143	1	15 37 39.08	-16 39 20.4	4	9003	WOOMERA	3090 19	AY	7488						
7 23	11 44 9.1602	1	15 57 46.14	-15 22 21.4	4	9003	WOOMERA	3090 22	SR	7489						
7 23	18 11 16.917	1	15 47 56.62	-40 1 54.3	4	9002	OLFANTSFTN	2005 4	SA	4691						
7 23	18 11 32.954	1	16 2 41.64	-39 6 44.9	4	9002	OLFANTSFTN	2005 8	SA	4692						
7 23	18 12 19.546	1	16 42 4.87	-35 58 26.5	4	9002	OLFANTSFTN	2005 10	SA	4693						
7 24	0 38 2.0676	1	12 39 3.82	-20 59 14.2	4	9011	V.DOLORES	1319 7	DD	5452						
7 24	0 40 0.9203	1	14 4 34.32	-20 54 37.6	4	9011	V.DOLORES	1319 12	DD	5453						
7 24	0 42 5.6115	1	15 39 42.03	-17 8 9.0	4	9011	V.DOLORES	1319 18	DD	5454						
7 24	1 27 28.2302	1	23 12 0.71	-4 27 41.0	4	9004	S.FERNANDO	2082 14	F1	5610						
7 24	5 44 57.5426	1	22 47 22.98	26 34 18.2	4	9009	CURACAO	1533 19	LW	4138						
7 24	5 45 57.3571	1	23 5 33.44	28 24 26.9	4	9009	CURACAO	1533 21	LW	4136						
7 24	5 46 45.4182	1	23 20 14.23	29 44 34.0	4	9009	CURACAO	1533 24	LW	4139						
7 24	8 6 11.4508	1	22 25 43.58	51 10 5.9	4	9009	CURACAO	1535 19	SK	5874						
7 24	18 0 37.384	1	15 34 38.88	-39 5 20.4	4	9002	OLFANTSFTN	2009 2	FN	8369						
7 24	18 0 49.419	1	15 46 25.16	-38 22 9.3	4	9002	OLFANTSFTN	2009 5	FN	8370						
7 24	18 1 15.705	1	16 10 53.79	-36 35 48.4	4	9002	OLFANTSFTN	2009 7	R1	8371						
7 25	5 32 35.8607	1	22 17 9.79	25 53 3.1	4	9009	CURACAO	1538 8	SL	4142						
7 25	11 23 30.7437	1	16 3 54.26	-8 31 16.4	4	9003	WOOMERA	3096 27	FI	4104						
7 25	14 33 18.4365	1	0 50 30.62	53 53 41.6	4	9012	MAUI	2267 17	LU	6106						
7 26	0 21 29.575	1	17 32 19.12	-54 59 39.4	4	9007	AREQUIPA	2019 26	SL	4694						
7 26	1 4 48.0184	1	22 51 3.55	-2 18 2.5	4	9004	S.FERNANDO	2096 16	DD	5184						
7 26	7 38 35.4705	1	21 54 28.49	19 50 43.1	4	9010	JUPITER	1606 24	RS	6325						
7 26	11 10 55.7374	1	14 29 53.63	-11 36 9.9	4	9003	WOOMERA	3102 13	CA	4297						

Satellite 1959 Eta

26-31 July 1960

DATE Y M D	TIME (A-1) H M S	R.A.(1950.0)			DEC.(1950.0)			STATION	FRAME NO.	MS	OBS.NO.
		H	M	S	D	M	S				
1960 7 26	11 12 59.5849	1	15 58	30.75	- 5 25	0.5	4	9003 WOOMERA	3102 34	CA	4298
7 26	11 15 13.4247	1	17 16	10.45	1 43	14.2	4	9003 WOOMERA	3102 59	CA	4296
7 26	20 37 54.800	1	22 15	52.67	16 48	26.5	4	9006 NAINI TAL	1611 12	BD	7168
7 26	20 42 11.494	1	23 40	59.43	24 3	56.9	4	9006 NAINI TAL	1611 38	GN	7169
7 26	20 45 55.348	1	1 0	5.22	27 22	15.8	4	9006 NAINI TAL	1611 58	GN	7171
7 27	0 12 21.559	3	18 23	55.88	-44 19	25.4	4	9007 AREQUIPA	2024 6	FN	8609
7 27	7 20 8.3913	1	22 10	13.59	-1 49	38.4	4	9001 ORGAN PASS	2272 9	RS	6107
7 27	9 44 32.6432	1	23 32	34.72	24 56	59.6	4	9001 ORGAN PASS	2274 30	MZ	4111
7 27	9 46 51.2552	1	0 25	43.20	27 16	27.2	4	9001 ORGAN PASS	2274 37	MZ	4112
7 27	9 48 59.5723	1	1 16	2.53	28 9	23.1	4	9001 ORGAN PASS	2274 41	MZ	4113
7 27	11 1 25.2827	1	15 6	14.05	- 5 45	52.4	4	9003 WOOMERA	3107 19	ZL	4695
7 27	17 28 46.155	1	14 48	52.51	-35 16	17.2	4	9002 OLFACTSFTN	2022 8	LW	5255
7 27	17 29 36.880	1	15 44	52.59	-31 16	26.9	4	9002 OLFACTSFTN	2022 17	LW	5256
7 27	17 29 54.859	1	16 2	46.18	-29 35	6.3	4	9002 OLFACTSFTN	2022 21	LW	5257
7 28	9 32 29.3897	3	23 6	8.01	24 50	27.1	4	9001 ORGAN PASS	2284 15	CS	5875
7 28	10 51 15.4634	1	15 13	0.47	- 1 23	18.8	4	9003 WOOMERA	3112 12	DD	4697
7 28	17 19 30.386	1	15 59	58.50	-26 33	18.0	4	9002 OLFACTSFTN	2029 19	ZL	4696
7 28	23 49 37.421	3	16 58	12.32	-55 29	19.2	4	9007 AREQUIPA	2029 15	FN	6688
7 28	23 49 47.0546	1	15 14	37.39	- 1 37	57.1	4	9011 V.DOLORES	1335 9	DD	7894
7 28	23 51 59.7447	1	16 49	24.31	6 3	26.0	4	9011 V.DOLORES	1335 19	DD	7895
7 29	4 51 4.1491	1	22 46	11.68	37 17	24.7	4	9009 CURACAO	1549 9	SK	6326
7 29	4 54 43.9778	1	23 54	9.17	39 54	13.5	4	9009 CURACAO	1549 17	SK	6327
7 29	9 17 0.6049	3	21 34	52.91	18 50	32.8	4	9001 ORGAN PASS	2291 19	DD	5455
7 29	9 19 7.6948	3	22 14	33.07	22 37	40.8	4	9001 ORGAN PASS	2291 22	DD	5456
7 29	9 32 39.5453	3	3 1	0.50	25 33	42.9	4	9001 ORGAN PASS	2291 44	DD	5458
7 29	13 47 60.6257	1	23 50	37.45	53 4	36.9	4	9012 MAUI	2296 28	LO	4326
7 29	23 39 45.270	3	17 26	45.34	-49 25	22.9	4	9007 AREQUIPA	2034 28	JV	6690
7 30	1 55 33.498	3	14 37	31.53	-12 40	24.4	4	9007 AREQUIPA	2037 11	GN	6691
7 30	1 58 7.400	3	16 2	38.58	- 2 13	14.8	4	9007 AREQUIPA	2037 20	GN	6692
7 30	9 20 6.7355	1	23 38	32.04	44 25	28.9	4	9010 JUPITER	1610 2	KS	5877
7 30	9 22 1.9391	1	0 36	34.07	45 25	0.1	4	9010 JUPITER	1610 9	KS	5878
7 30	9 25 27.3009	1	2 24	27.67	42 45	42.2	4	9010 JUPITER	1610 23	KS	5879
7 30	16 57 46.278	1	14 47	13.68	-25 51	6.7	4	9002 OLFACTSFTN	2037 15	DD	4698
7 30	19 17 20.849	1	15 47	14.98	18 31	39.3	4	9002 OLFACTSFTN	2038 11	RW	5614
7 30	23 27 51.030	3	15 33	45.75	-60 46	21.9	4	9007 AREQUIPA	2040 21	ZL	6439
7 30	23 30 0.809	3	17 53	28.39	-41 13	20.1	4	9007 AREQUIPA	2040 28	ZL	6440
7 31	0 9 50.0162	1	22 29	49.49	5 26	20.6	4	9004 S.FERNANDO	2115 18	DD	5013
7 31	1 46 15.962	3	15 9	6.77	- 4 32	52.4	4	9007 AREQUIPA	2042 15	AY	6441
7 31	1 48 52.874	3	16 36	5.76	7 24	56.8	4	9007 AREQUIPA	2042 22	LU	6442
7 31	2 28 40.0488	1	22 23	36.94	20 9	10.2	4	9004 S.FERNANDO	2117 6	CA	5615
7 31	2 30 16.0438	1	22 55	37.57	22 1	46.6	4	9004 S.FERNANDO	2117 18	CA	5616
7 31	10 56 6.9711	1	20 23	45.03	25 0	1.2	4	9012 MAUI	2303 12	SL	3863
7 31	13 26 54.9271	1	0 18	0.50	53 29	26.5	4	9012 MAUI	2304 35	SR	6108
7 31	15 21 55.164	3	22 5	28.33	12 46	58.4	4	9005 TOKYO	1639 16	DD	8085
7 31	16 46 37.555	1	13 38	58.18	-26 29	59.1	4	9002 OLFACTSFTN	2041 14	RW	5617

Satellite 1959 Eta

31 July - 4 August 1960

DATE Y M D	TIME (A-1) H M S	RMS MS	R.A.(1950.0)			DEC.(1950.0)			RMS S	STATION	FRAME NO.	MS	OBS.NO.
			H	M	S	D	M	S					
1960 7 31	19 7 0.876	1	15 43	59.27	22 18 16.1	4	9002	OOLFANTSFTN	2043 12	CS	5880		
7 31	23 17 41.6250	1	14 6	31.26	5 58 38.9	4	9011	V.DOLORES	1343 17	DD	5618		
7 31	23 19 27.4674	1	15 40	8.40	13 2 39.1	4	9011	V.DOLORES	1343 27	DD	5619		
7 31	23 54 55.2266	1	21 25	29.18	- 0 9 40.8	4	9004	S.FERNANDO	2121 6	CR	3834		
8 1	1 37 58.805	3	16 15	42.50	9 39 58.9	4	9007	AREQUIPA	2046 24	SR	6328		
8 1	1 39 13.107	3	16 55	33.46	15 7 39.3	4	9007	AREQUIPA	2046 30	SR	6329		
8 1	2 17 22.5848	1	22 15	55.42	29 59 15.0	4	9004	S.FERNANDO	2123 6	SR	6330		
8 1	2 19 10.0508	1	22 51	56.99	22 57 58.9	4	9004	S.FERNANDO	2123 14	SR	6331		
8 1	2 20 34.1194	1	23 21	4.69	24 5 15.9	4	9004	S.FERNANDO	2123 20	SR	6332		
8 1	16 36 42.651	1	14 8	24.09	-20 17 9.6	4	9002	OOLFANTSFTN	2047 10	LW	6444		
8 1	23 7 23.7357	1	14 3	3.98	10 8 30.5	4	9011	V.DOLORES	1345 23	AY	6333		
8 1	23 43 51.1823	1	21 19	55.02	1 4 51.0	4	9004	S.FERNANDO	2127 22	LW	6334		
8 1	23 44 23.2316	1	21 28	29.93	2 8 17.3	4	9004	S.FERNANDO	2127 26	LW	6335		
8 2	1 24 50.3449	3	14 33	52.05	0 31 25.0	4	9007	AREQUIPA	2052 18	KS	6336		
8 2	1 26 57.563	3	15 49	14.21	11 12 0.7	4	9007	AREQUIPA	2052 26	KS	6337		
8 2	1 29 5.240	3	17 0	12.43	20 39 34.5	4	9007	AREQUIPA	2052 33	KS	6338		
8 2	2 5 55.5078	1	22 5	18.31	21 34 29.8	4	9004	S.FERNANDO	2129 4	DD	4699		
8 2	2 7 18.7386	1	22 33	9.41	23 7 30.3	4	9004	S.FERNANDO	2129 12	DD	4700		
8 2	2 8 49.4537	1	23 4	22.49	24 23 57.2	4	9004	S.FERNANDO	2129 20	DD	4701		
8 2	9 57 53.7524	1	13 31	1.65	11 9 58.2	4	9003	WQMERIA	3140 10	KS	7176		
8 2	10 0 0.5568	1	15 16	57.04	20 14 33.1	4	9003	WQMERIA	3140 23	KS	7177		
8 2	19 15 13.6119	1	20 2	21.88	17 25 33.0	4	9006	NAINI TAL	1619 7	AY	7172		
8 2	19 16 44.281	1	20 30	35.17	20 49 41.2	4	9006	NAINI TAL	1619 15	AY	7173		
8 2	19 19 35.096	1	21 27	41.44	26 20 59.3	4	9006	NAINI TAL	1619 34	AY	7174		
8 2	19 21 36.577	1	22 10	29.76	29 16 37.0	4	9006	NAINI TAL	1619 47	AY	7175		
8 2	23 32 1.3841	1	21 1	39.88	0 40 48.2	4	9004	S.FERNANDO	2135 25	CR	4336		
8 2	23 32 53.5454	1	21 16	7.30	2 28 31.9	4	9004	S.FERNANDO	2135 31	CR	4337		
8 3	1 54 27.8337	1	21 54	37.21	22 6 13.5	4	9004	S.FERNANDO	2137 4	F1	4339		
8 3	1 55 47.8303	1	22 21	31.47	23 34 38.2	4	9004	S.FERNANDO	2137 14	F1	4340		
8 3	1 57 7.3143	1	22 48	54.50	24 41 53.8	4	9004	S.FERNANDO	2137 22	F1	4338		
8 3	4 20 31.0857	1	0 25	38.62	25 49 39.9	4	9004	S.FERNANDO	2139 11	YK	4465		
8 3	4 21 30.8079	1	0 49	3.26	24 59 23.4	4	9004	S.FERNANDO	2139 17	YK	4468		
8 3	4 22 26.8117	1	1 11	2.11	23 57 12.9	4	9004	S.FERNANDO	2139 24	YK	4466		
8 3	6 9 56.9478	1	21 15	25.26	32 20 35.1	4	9010	JUPITER	1624 16	KS	4702		
8 3	6 10 12.9458	1	21 21	16.51	32 47 14.1	4	9010	JUPITER	1624 18	KS	4703		
8 3	10 22 7.8636	1	19 46	39.53	28 37 10.3	4	9012	MAUI	2317 5	SR	6693		
8 3	10 23 57.3360	1	20 26	1.32	33 0 23.1	4	9012	MAUI	2317 29	SR	6694		
8 3	10 47 29.5846	3	23 31	20.44	34 4 25.6	4	9001	ORGAN PASS	2296 4	PG	9078		
8 3	10 48 48.0334	3	0 3	25.67	33 52 50.8	4	9001	ORGAN PASS	2296 14	PG	9079		
8 3	12 49 48.9690	1	22 20	35.69	51 52 43.6	4	9012	MAUI	2318 10	AY	6445		
8 3	22 47 59.7668	1	15 1	54.15	23 15 21.7	4	9011	V.DOLORES	1351 31	KS	6446		
8 4	4 8 40.7027	1	0 4	42.19	25 54 17.5	4	9004	S.FERNANDO	2141 6	PG	4457		
8 4	4 9 36.9091	1	0 25	58.98	25 14 4.8	4	9004	S.FERNANDO	2141 11	PG	4458		
8 4	4 10 40.1661	1	0 50	1.03	24 12 5.8	4	9004	S.FERNANDO	2141 17	PG	4459		
8 4	5 57 51.44444	1	20 49	4.37	31 55 49.5	4	9010	JUPITER	1632 13	KS	4134		

Satellite 1959 Eta

4-9 August 1960

DATE Y M D	TIME (A-1) H M S	R.A.(1950.0)			DECL.(1950.0)			STATION	FRAME NO.	MS	OBS.NO.
		H	M	S	D	M	S				
1960 8 4	5 58 38.8200	1	21	6 36.33	33	19 22.4	4	9010 JUPITER	1632 17	KS	4133
	5 59 23.9740	1	21	23 41.27	34	30 15.1	4	9010 JUPITER	1632 21	KS	4132
8 4	8 27 21.5165	1	0 0 39 0.05	42	51 13.9	4	9010 JUPITER	1633 14	KS	5882	
8 4	16 58 30.887	3	22	22 14.71	28	41 60.0	4	9005 TOKYO	1650 5	AY	8087
8 4	17 1 48.902	3	23	35 25.66	29	32 32.2	4	9005 TOKYO	1650 15	AY	8088
8 5	1 31 32.1753	1	21	32 59.69	23	0 44.8	4	9004 S.FERNANDO	2146 8	SR	4704
8 5	1 32 32.4572	1	21	54 2.95	24	8 38.4	4	9004 S.FERNANDO	2146 15	SR	4705
8 5	1 34 5.6584	1	22	26 19.87	25	26 25.2	4	9004 S.FERNANDO	2146 25	SR	4706
8 5	3 25 41.3375	1	19	10 27.87	36	40 19.9	4	9009 CURACAO	1574 21	SR	6340
8 5	9 59 28.8690	1	19	18 33.01	30	46 4.8	4	9012 MAUI	2325 4	KS	7500
8 5	16 49 36.590	3	23	8 37.34	29	38 4.0	4	9005 TOKYO	1656 15	FN	8089
8 6	3 45 16.1092	1	23	32 9.94	25	40 44.6	4	9004 S.FERNANDO	2154 4	PG	4461
8 6	3 46 34.3320	1	0 0 15.42	24	49 22.5	4	9004 S.FERNANDO	2154 17	PG	4460	
8 6	3 48 6.9817	1	0 33 33.04	23	17 34.8	4	9004 S.FERNANDO	2154 30	PG	4462	
8 7	1 9 28.2007	1	21	28 52.89	24	39 34.4	4	9004 S.FERNANDO	2160 4	LW	5258
8 7	3 2 36.2132	1	18	19 33.56	37	37 51.8	4	9009 CURACAO	1578 19	AY	6341
8 7	3 36 17.0016	1	0 0 14 23.88	23	21 43.7	4	9004 S.FERNANDO	2161 16	DD	8372	
8 7	7 14 56.3326	1	18	21 57.02	-10	8 0.0	4	9012 MAUI	2336 4	CA	7725
8 7	7 16 8.3110	1	18	53 46.40	-4	23 2.5	4	9004 S.FERNANDO	2336 19	CA	7726
8 8	0 58 10.2689	1	21	21 2.73	25	4 59.6	4	9004 S.FERNANDO	2167 9	FN	6342
8 8	3 23 9.3635	10	23	29 7.26	24	28 13.0	4	9004 S.FERNANDO	2169 9	LW	5259
8 8	7 4 41.4617	1	18	26 31.35	-6	2 16.1	4	9012 MAUI	2340 8	2L	6695
8 8	7 6 12.8958	1	19	8 21.64	1	19 36.3	4	9012 MAUI	2340 28	ZL	6696
8 8	16 12 37.480	3	21	40 50.16	28	59 22.7	4	9005 TOKYO	1680 5	AY	8090
8 8	16 15 14.584	3	22	39 30.45	29	32 18.4	4	9005 TOKYO	1680 13	AY	8091
8 8	22 24 20.6927	1	19	55 11.33	2	50 22.8	4	9004 S.FERNANDO	2173 10	SR	6343
8 8	22 25 16.1215	1	20	15 8.31	5	10 51.3	4	9004 S.FERNANDO	2173 19	SR	6344
8 9	0 45 50.9835	1	20	49 42.14	24	19 55.5	4	9004 S.FERNANDO	2175 4	SR	6345
8 9	0 48 10.1995	1	21	42 25.20	26	28 9.6	4	9004 S.FERNANDO	2175 27	SR	6346
8 9	2 39 10.7938	3	17	8 55.67	35	57 2.2	4	9009 CURACAO	1584 9	SK	6697
8 9	6 54 1.4726	1	18	19 17.79	-3	58 40.9	4	9012 MAUI	2343 2	LW	4185
8 9	6 54 13.5374	1	18	25 23.52	-2	54 43.7	4	9012 MAUI	2343 4	LW	4184
8 9	6 54 15.5369	1	18	26 23.83	-2	44 11.4	4	9012 MAUI	2343 5	LW	4183
8 9	6 54 17.5359	1	18	27 24.18	-2	33 43.8	4	9012 MAUI	2343 6	LW	4182
8 9	6 54 19.5345	1	18	28 23.94	-2	23 12.7	4	9012 MAUI	2343 7	LW	4181
8 9	6 54 21.5328	1	18	29 24.10	-2	12 48.1	4	9012 MAUI	2343 8	LW	4180
8 9	6 54 37.3992	1	18	37 16.36	-0	51 0.9	4	9012 MAUI	2343 10	LW	4179
8 9	6 54 39.3990	1	18	38 15.52	-0	40 39.2	4	9012 MAUI	2343 11	LW	4178
8 9	6 54 41.3987	1	18	39 14.09	-0	30 29.5	4	9012 MAUI	2343 12	LW	4177
8 9	6 54 43.3983	1	18	40 13.21	-0	20 20.9	4	9012 MAUI	2343 13	LW	4175
8 9	6 54 45.3973	1	18	41 12.40	-0	10 21.1	4	9012 MAUI	2343 14	LW	4176
8 9	6 55 3.5837	1	18	50 1.35	1	20 23.1	4	9012 MAUI	2343 17	LW	4174
8 9	6 55 5.5828	1	18	50 59.02	1	30 12.4	4	9012 MAUI	2343 18	LW	4173
8 9	6 55 7.5819	1	18	51 56.48	1	39 58.8	4	9012 MAUI	2343 19	LW	4172
8 9	6 55 25.9439	1	19	0 40.16	3	8 51.4	4	9012 MAUI	2343 22	LW	4171

Satellite 1959 Eta

9-15 August 1960

DATE Y M D	TIME (A-1) H M S			RMS H M S			DECL.(1950.0) D M S			STATION S			FRAME NO.		MS	OBS.NO.					
	1960	8	9	6	55	27.94222	1	19	1	36.04	3	17	28.1	4	9012	MAUI	2343	23	LW		
	8	9	9	16	0.7261	1	18	58	14.47	39	26	23.0	4	9012	MAUI	2348	10	KS			
	8	9	14	12	11.6204	1	1	41	0.87	33	34	54.0	4	9012	MAUI	2351	2	SK			
	8	9	22	12	29.5005	1	19	27	50.19	1	6	10.7	4	9004	S.FERNANDO	2181	5	LU			
	8	9	22	14	44.5885	1	20	19	7.82	7	2	48.2	4	9004	S.FERNANDO	2181	20	SL			
	8	9	8	10	0.37	29.58229	1	21	49	9.58	27	0	52.7	4	9004	S.FERNANDO	2183	4	SK		
	8	10	8	10	0.39	4.2160	1	22	25	6.88	27	18	54.7	4	9004	S.FERNANDO	2183	13	YK		
	8	10	8	10	2.28	13.2408	1	18	50	3.01	5	13	15.7	4	9010	JUPITER	1654	14	DD		
	8	10	8	10	2.29	0.4629	1	19	12	1.02	8	18	2.2	4	9010	JUPITER	1654	19	DD		
	8	10	8	10	2.29	8.4618	1	19	15	41.48	8	47	53.2	4	9010	JUPITER	1654	21	DD		
	8	10	8	10	4.50	16.2499	1	19	48	6.90	37	27	44.4	4	9010	JUPITER	1655	11	LU		
	8	10	8	10	7.18	8.2984	1	23	21	24.49	41	7	38.1	4	9010	JUPITER	1657	18	LU		
	8	10	8	10	22	2.37.7869	1	19	46	7.97	4	49	19.6	4	9004	S.FERNANDO	2187	14	KS		
	8	11	8	11	0.23	48.8556	1	20	43	53.35	25	30	54.8	4	9004	S.FERNANDO	2190	5	LU		
	8	11	8	11	0.26	1.9683	1	21	37	33.52	27	6	26.0	4	9004	S.FERNANDO	2190	21	YK		
	8	11	8	11	2.48	22.5708	1	22	51	52.43	23	18	4.1	4	9004	S.FERNANDO	2192	7	AY		
	8	11	8	11	8.53	39.4633	1	18	25	52.43	41	44	26.6	4	9012	MAUI	2357	3	SR		
	8	11	8	11	11.20	18.2457	1	21	55	10.87	53	43	40.5	4	9012	MAUI	2359	11	BL		
	8	11	8	11	21	51.56.0735	1	19	45	19.26	6	7	39.5	4	9004	S.FERNANDO	2197	13	YK		
	8	11	8	11	21	52	28.0658	1	19	58	43.41	7	32	10.8	4	9004	S.FERNANDO	2197	17	YK	
	8	12	8	12	0.13	32.82220	1	20	59	36.71	26	35	6.0	4	9004	S.FERNANDO	2199	7	LO		
	8	12	8	12	0.14	25.7408	1	21	21	38.92	27	5	34.0	4	9004	S.FERNANDO	2199	19	LO		
	8	12	8	12	0.14	57.7403	1	21	34	49.06	27	16	52.3	4	9004	S.FERNANDO	2199	27	LO		
	8	12	8	12	2.37	26.7667	1	22	52	59.89	22	16	11.4	4	9004	S.FERNANDO	2201	4	LO		
	8	12	8	12	2.38	51.4390	1	23	21	19.13	20	49	22.0	4	9004	S.FERNANDO	2201	14	LO		
	8	12	8	12	4.29	26.9341	1	18	8	36.44	56	55	39.1	4	9009	CURACAO	1595	12	YK		
	8	12	8	12	21	41	37.0919	1	19	54	38.67	8	20	51.9	4	9004	S.FERNANDO	2204	19	SK	
	8	13	8	13	0	1	46.1780	1	20	37	3.60	26	17	40.2	4	9004	S.FERNANDO	2207	5	SK	
	8	13	8	13	0	4	6.6772	1	21	37	21.38	27	23	10.6	4	9004	S.FERNANDO	2207	20	SK	
	8	13	8	13	2	25	58.2601	1	22	42	53.64	21	37	33.4	4	9004	S.FERNANDO	2209	4	SK	
	8	13	8	13	2	27	54.6778	1	23	21	37.49	19	29	11.0	4	9004	S.FERNANDO	2209	16	SK	
	8	13	8	13	6	46	4.5129	1	23	45	47.90	36	48	17.3	4	9010	JUPITER	1670	10	RS	
	8	13	8	13	21	28	43.7254	1	18	51	41.71	2	56	16.0	4	9004	S.FERNANDO	2213	5	ST	
	8	13	8	13	21	29	50.1191	1	19	23	56.90	6	27	32.8	4	9004	S.FERNANDO	2213	19	ST	
	8	13	8	13	23	50	46.9532	1	20	34	10.80	26	34	7.0	4	9004	S.FERNANDO	2216	6	YK	
	8	14	8	14	2	14	50.44446	1	22	39	37.44	20	35	5.8	4	9004	S.FERNANDO	2219	9	SK	
	8	14	8	14	2	17	39.9071	1	23	34	59.09	17	1	51.4	4	9004	S.FERNANDO	2219	27	SK	
	8	14	8	14	4	37	40.8846	1	23	44	42.60	-	0	26	2.2	4	9004	S.FERNANDO	2222	7	ZL
	8	14	8	14	4	39	30.7109	10	0	11	17.33	-	3	54	14.1	4	9004	S.FERNANDO	2222	19	ZL
	8	14	8	14	8	22	26.8421	1	18	56	12.68	51	0	34.0	4	9012	MAUI	2375	13	KS	
	8	14	8	14	13	13	20.9493	1	0	7	2.61	31	34	8.6	4	9012	MAUI	2379	4	AY	
	8	14	8	14	20	13	38.6180	1	5	35	38.78	26	49	5.1	4	9003	WOOMERA	3180	25	YK	
	8	14	8	14	21	18	39.6295	1	19	7	42.04	6	1	24.2	4	9004	S.FERNANDO	2225	8	YK	
	8	14	8	14	23	43	14.9410	1	22	3	19.26	26	44	41.6	4	9004	S.FERNANDO	2227	31	YK	
	8	15	8	15	2	2	35.1488	1	22	12	59.76	20	35	45.2	4	9004	S.FERNANDO	2230	4	GN	

Satellite 1959 Eta

15-18 August 1960

DATE Y M D	TIME (A-1) H M S	RMS MS	R.A.(1950.0)			DEFCL.(1950.0)			RMS S	STATION	FRAME NO.	MS	OBS.NO.	
			H	M	S	D	M	S						
1960 8 15	2 4 11.15	22 45 45.47	18	53	39.0	4	9004	S.FERNANDO	2230 16	GN	7187			
8 15	2 5 45.1389	23 16 27.60	16	49	20.9	4	9004	S.FERNANDO	2230 27	GN	7188			
8 15	3 53 42.0893	18 18 19.34	39	40	29.3	4	9010	JUPITER	1681 7	RS	4472			
8 15	3 54 52.5041	19 0 31.97	42	30	56.0	4	9010	JUPITER	1681 12	RS	4473			
8 15	3 55 51.8315	19 37 40.09	44	8	57.2	4	9010	JUPITER	1681 17	RS	4474			
8 15	13 2 35.0194	0 10 8.52	29	1	11.8	4	9012	MAUI	2387 9	DD	8489			
8 15	17 17 30.831	22 40 18.96	12	44	28.8	4	9005	TOKYO	1702 5	AY	8093			
8 15	17 19 35.711	23 16 46.69	9	38	34.8	4	9010	JUPITER	1688 14	PG	8094			
8 15	23 27 56.4960	10	20	1	41.40	26	10	51.0	4	9004	S.FERNANDO	2238 4	AY	6452
8 15	23 30 7.7600	10	21	5	46.37	27	7	32.8	4	9004	S.FERNANDO	2238 16	AY	6453
8 16	1 22 48.6086	1 17 21 32.94	10	33	21.0	4	9010	JUPITER	1688 6	PG	4402			
8 16	1 23 22.8914	1 17 46 55.69	13	46	59.8	4	9010	JUPITER	1688 10	PG	4401			
8 16	1 23 49.2420	1 18 6 20.50	16	3	49.9	4	9010	JUPITER	1688 14	PG	4400			
8 16	1 51 36.2092	1 22 12 18.14	19	19	7.3	4	9004	S.FERNANDO	2240 4	FN	8610			
8 16	1 53 24.0949	10	22	48	58.12	17	9	24.8	4	9004	S.FERNANDO	2240 15	DD	8611
8 16	3 44 16.4259	1 19 6 34.43	44	17	37.6	4	9010	JUPITER	1692 8	SR	4710			
8 16	3 45 18.2954	1 19 48 6.98	45	37	6.8	4	9010	JUPITER	1692 14	SR	4711			
8 16	12 20 23.286	3 18 34 37.91	17	54	58.9	4	9005	TOKYO	1709 2	LU	8095			
8 16	12 22 53.971	3 20 0 54.81	23	6	12.3	4	9005	TOKYO	1709 12	LU	8096			
8 16	17 6 31.948	3 22 38 53.21	11	2	13.3	4	9005	TOKYO	1713 2	AY	8097			
8 16	17 8 34.633	3 23 14 25.99	7	50	13.3	4	9005	TOKYO	1713' 7	AY	8098			
8 16	20 56 28.9314	1 18 35 10.19	5	8	38.6	4	9004	S.FERNANDO	2244 9	FN	7189			
8 16	23 17 5.3641	1 20 0 52.99	26	20	36.6	4	9004	S.FERNANDO	2247 5	RS	4456			
8 16	23 17 45.3610	1 20 21 38.42	26	44	20.6	4	9004	S.FERNANDO	2247 10	RS	4464			
8 16	23 18 9.3594	1 20 33 55.29	26	52	28.8	4	9004	S.FERNANDO	2247 13	RS	4463			
8 17	1 12 4.8458	1 17 8 4.80	12	6	28.7	4	9010	JUPITER	1700 15	GN	5014			
8 17	1 12 12.8471	1 17 14 29.30	12	55	55.0	4	9010	JUPITER	1700 17	GN	5015			
8 17	1 13 2.1022	1 17 54 3.31	17	36	53.3	4	9010	JUPITER	1700 25	GN	5016			
8 17	6 3 8.5063	1 0 4 49.03	28	28	43.2	4	9010	JUPITER	1706 12	ZL	4819			
8 17	7 48 53.5101	1 17 42 14.91	54	7	50.3	4	9012	MAUI	2398 4	BL	6454			
8 17	8 24 9.3544	1 23 59 56.92	6	38	25.3	4	9010	JUPITER	1708 17	LW	4322			
8 17	8 24 25.3542	1 0 4 19.57	6	3	7.9	4	9010	JUPITER	1708 19	LW	4323			
8 17	12 11 43.157	1 19 47 0.45	23	10	12.8	4	9005	TOKYO	1720 11	SR	8099			
8 17	15 5 47.9336	1 0 54 22.48	-13	52	11.6	4	9012	MAUI	2405 15	FI	7897			
8 17	15 7 57.5917	1 1 26 25.91	-19	48	30.2	4	9012	V.DOLORES	1401 10	JV	6709			
8 18	1 1 57.7395	1 17 25 20.58	17	32	3.6	4	9010	JUPITER	1711 7	SK	5884			
8 18	1 2 5.7363	1 17 32 20.97	18	19	1.0	4	9010	JUPITER	1711 9	SK	5885			
8 18	1 2 21.3872	1 17 46 1.84	19	46	17.4	4	9010	JUPITER	1711 12	SK	5886			
8 18	3 23 42.8128	1 19 51 48.91	47	42	58.6	4	9010	JUPITER	1716 2	LO	4320			
8 18	8 38 0.7751	10 4 40 15.08	24	12	24.7	4	9011	V.DOLORES	1401 10	JV	6709			
8 18	10 3 2.5457	1 21 56 52.95	53	3	42.1	4	9012	MAUI	2410 18	KS	7190			
8 18	20 35 12.1699	1 18 31 31.63	7	2	39.8	4	9004	S.FERNANDO	2251 10	LO	4453			
8 18	20 35 24.1677	1 18 39 37.34	7	46	24.0	4	9004	S.FERNANDO	2251 13	LO	4452			
8 18	22 55 7.9843	1 19 50 29.63	26	8	49.6	4	9004	S.FERNANDO	2255 5	LW	4328			
8 18	22 55 54.8648	1 20 17 5.04	26	24	13.5	4	9004	S.FERNANDO	2255 .9	LW	4327			

DATE Y M D	TIME (A-1)			RMS MS			R.A.(1950.0) H M S			DECL.(1950.0) D M S			RMS S			STATION	FRAME NO.	MS	OBS. NO.
	H	M	S	H	M	S	H	M	S	D	H	S	D	H	S				
1960 8 18 22	56	34.8634	1	20	39	2.07	26	21	47.8	4	9004	S.FERNANDO	2255	14	LW	4329			
8 19 1	17	20.6618	1	21	40	33.44	16	24	2.8	4	9004	S.FERNANDO	2257	4	RS	5887			
8 19 1	17	52.6611	1	21	52	12.80	15	44	24.8	4	9004	S.FERNANDO	2257	8	RS	5888			
8 19 1	18	52.3994	1	22	13	24.28	14	22	46.9	4	9004	S.FERNANDO	2257	13	RS	5889			
8 19 3	10	59.7586	1	18	19	36.68	46	36	42.1	4	9010	JUPITER	1728	2	SR	6711			
8 19 3	11	58.9159	1	19	8	13.65	48	13	18.6	4	9010	JUPITER	1728	7	SR	6712			
8 19 3	12	53.6170	1	19	52	52.97	48	37	13.0	4	9010	JUPITER	1728	10	SR	6713			
8 19 3	39	42.8277	1	22	47	22.86	-4	5	18.9	4	9004	S.FERNANDO	2260	4	F1	4330			
8 19 3	40	46.8286	1	23	2	9.07	-5	56	53.4	4	9004	S.FERNANDO	2260	8	F1	4331			
8 19 3	42	5.4376	1	23	20	8.20	-8	18	24.4	4	9004	S.FERNANDO	2260	11	F1	4332			
8 19 5	33	55.2202	1	21	6	6.01	38	47	31.9	4	9010	JUPITER	1731	2	BL	4129			
8 19 5	28	21.0978	1	18	30	11.18	60	23	16.3	4	9012	MAUI	2417	14	KS	7196			
8 19 8	19	0.2658	1	3	20	56.99	23	51	44.8	4	9007	AREQUIPA	2122	18	JV	7191			
8 19 8	21	18.8854	1	3	55	33.02	17	59	58.4	4	9007	AREQUIPA	2122	22	JV	7192			
8 19 9	52	8.8767	1	22	0	50.09	52	28	54.0	4	9012	MAUI	2418	20	YK	7502			
8 19 16	11	2.587	10	19	37	14.69	42	56	2.4	4	9006	NAINI TAL	1634	4	KS	8612			
8 19 22	44	0.3642	1	19	39	3.28	25	49	19.7	4	9004	S.FERNANDO	2263	3	RW	8872			
8 19 22	44	20.3634	1	19	51	6.46	25	58	7.4	4	9004	S.FERNANDO	2263	8	FN	8873			
8 19 22	44	28.36	1	19	55	53.90	26	0	32.4	4	9004	S.FERNANDO	2263	10	RW	2771			
8 20 1	6	3.8511	1	21	32	0.78	15	8	31.0	4	9004	S.FERNANDO	2265	5	CR	4333			
8 20 1	6	19.8507	1	21	37	59.17	14	47	54.2	4	9004	S.FERNANDO	2265	7	CR	4334			
8 20 1	6	49.9190	1	21	49	2.96	14	7	8.7	4	9004	S.FERNANDO	2265	9	CR	4335			
8 20 3	2	2.0132	1	19	51	56.49	49	28	28.2	4	9010	JUPITER	1740	7	RS	4324			
8 20 3	28	51.3335	1	22	46	3.48	-6	16	36.5	4	9004	S.FERNANDO	2267	3	F1	4712			
8 20 3	29	55.3350	1	23	0	44.67	-8	9	45.4	4	9004	S.FERNANDO	2267	7	F1	4713			
8 20 8	20	3.3350	1	21	37	59.17	14	47	54.2	4	9004	S.FERNANDO	2265	7	CR	4335			
8 20 8	20	5.19190	1	21	49	2.96	14	7	8.7	4	9004	S.FERNANDO	2265	9	CR	4335			
8 20 8	20	3.20132	1	19	51	56.49	49	28	28.2	4	9010	JUPITER	1740	7	RS	4324			
8 20 8	20	3.28511	1	22	46	3.48	35	32	54.4	4	9010	JUPITER	1740	15	AY	6110			
8 20 8	20	3.2955.3350	1	23	0	44.67	62	9	6.3	4	9012	MAUI	2421	13	CL	7193			
8 20 8	20	3.3121.9640	1	23	21	7.68	-10	52	32.0	4	9004	S.FERNANDO	2267	11	F1	4714			
8 20 8	20	5.2311.9640	1	21	12	52.23	37	36	53.2	4	9010	JUPITER	1742	8	AY	6110			
8 20 8	20	5.2433.3238	1	21	52	54.27	35	32	54.4	4	9010	JUPITER	1742	15	AY	6110			
8 20 8	20	7.1728.2449	1	18	18	23.04	62	9	6.3	4	9012	MAUI	2421	13	CL	7193			
8 20 8	20	7.4640.8069	1	22	37	34.82	8	56	6.9	4	9010	JUPITER	1744	3	AY	6112			
8 20 8	20	8.128.1824	1	23	31	59.70	20	46	8.4	4	9007	AREQUIPA	2128	3	LO	6361			
8 20 8	20	8.423.8009	1	1	1	36	33.90	36	2	35.5	4	9007	AREQUIPA	2128	10	LO	6362		
8 20 8	20	8.67.1882	1	2	46	23.00	29	56	48.8	4	9007	AREQUIPA	2128	13	LO	6363			
8 20 8	20	9.4153.6373	1	22	25	31.40	25	58	50.9	4	9012	MAUI	2423	31	YK	7194			
8 20 8	20	12.65.1824	1	23	31	59.70	20	46	8.4	4	9012	MAUI	2424	18	GN	6715			
8 20 8	20	12.83.5955	1	0	7	56.82	15	48	43.2	4	9012	MAUI	2424	37	GN	6716			
8 20 8	20	13.11.6081	1	17	54	20.59	5	43	58.6	4	9004	S.FERNANDO	2270	4	CA	4449			
8 20 8	20	13.43.6019	1	18	19	33.47	7	54	45.3	4	9004	S.FERNANDO	2270	12	CA	4450			
8 20 8	20	14.26.2298	1	18	51	52.72	10	25	6.8	4	9004	S.FERNANDO	2270	22	CA	4451			
8 21 3	17	49.5576	1	22	41	26.76	-8	7	45.0	4	9004	S.FERNANDO	2276	5	DD	4715			
8 21 3	18	50.3046	1	22	56	6.04	-10	1	37.1	4	9004	S.FERNANDO	2276	9	DD	4716			
8 21 3	20	30.0551	10	23	18	36.05	-13	1	54.8	4	9004	S.FERNANDO	2276	14	DD	4717			
8 21 3	21	7.618.8370	1	17	41	37.42	63	24	13.1	4	9012	MAUI	2427	5	YK	7195			
8 21 3	17	46.3071	1	23	10	47.03	1	59	57.7	4	9010	JUPITER	1746	14	CR	4125			
8 21 7	38	36.0110	1	23	23	20.35	0	17	25.5	4	9010	JUPITER	1746	16	CR	4128			

DATE Y M D	TIME (A-1)			RMS			R•A.(1950.0)			DECL.(1950.0)			RMS			STATION			FRAME NO.			MS			OBS. NO.		
	H	M	S	H	M	S	D	M	S	D	M	S	D	M	S	WOMERA	MAUI	MAUI	WOMERA	MAUI	MAUI	WOMERA	WOMERA	WOMERA	WOMERA	WOMERA	WOMERA
1960 8 21	7 53	14.6668	1	2 13	14.18	27	52	9.1	4	9007	AREQUIPA	2133	20	JV	7197												
8 21	7 55	11.9768	1	2 41	53.60	23	16	57.2	4	9007	AREQUIPA	2133	23	JV	7198												
8 21	9 28	35.4431	1	20 58	50.73	54	47	48.1	4	9012	MAUI	2430	8	KS	7199												
8 21	9 28	59.7823	1	21 15	55.78	54	5	58.9	4	9012	MAUI	2430	11	ZL	7200												
8 21	18 55	37.4102	1	4 8	15.67	15	20	36.3	4	9003	WOMERA	3203	18	GN	6717												
8 22	3 11	3.4886	1	23 35	26.52	-17	51	51.8	4	9004	S•FERNANDO	2283	4	GN	4718												
8 22	3 12	7.4892	10	23 49	18.56	-19	45	9.2	4	9004	S•FERNANDO	2283	8	GN	4719												
8 22	3 13	15.8994	1	20 0	3	55.86	-21	44	24.3	4	9004	S•FERNANDO	2283	11	ZL	7201											
8 22	7 44	44.8976	1	2 44	36.20	19	21	6.3	4	9007	AREQUIPA	2141	11	GN	7728												
8 22	18 44	44.9458	1	4 3	58.94	12	47	56.1	4	9003	WOMERA	3211	4	F1	7728												
8 22	18 46	39.0957	1	4 34	36.36	8	51	4.2	4	9003	WOMERA	3211	14	F1	7729												
8 23	6 46	13.4451	1	19 45	23.84	66	39	54.7	4	9012	MAUI	2441	6	SR	7202												
8 23	9 6	29.3050	1	20 47	50.98	54	47	53.7	4	9012	MAUI	2443	3	YK	7203												
8 23	9 7	36.4677	1	21 36	24.16	52	2	11.3	4	9012	MAUI	2443	13	YK	7204												
8 23	9 54	17.6742	1	2 3	23.81	-10	48	28.8	4	9007	AREQUIPA	2151	18	GN	6720												
8 23	9 57	29.9244	1	3 6	17.57	-21	2	17.7	4	9007	AREQUIPA	2151	26	GN	6721												
8 23	18 32	57.0678	1	3 45	58.05	12	7	1.4	4	9003	WOMERA	3219	6	LW	6718												
8 23	18 34	58.3046	1	4 17	46.16	7	59	0.1	4	9003	WOMERA	3219	18	LW	6719												
8 23	22 1	21.5612	1	20 0	6.21	23	24	7.7	4	9004	S•FERNANDO	2296	5	LO	6364												
8 23	22 1	37.5617	1	20 10	56.41	23	9	43.4	4	9004	S•FERNANDO	2296	9	LO	6365												
8 23	22 2	12.7446	1	20 33	40.40	22	29	12.0	4	9004	S•FERNANDO	2296	15	LO	6366												
8 24	18 24	9.2296	1	4 15	34.20	5	19	46.7	4	9003	WOMERA	3225	21	LW	7205												
8 24	21 49	14.8984	1	19 0	2.81	23	1	19.6	4	9004	S•FERNANDO	2304	4	F1	4820												
8 24	21 49	52.8273	3	19 29	25.09	22	51	51.2	4	9004	S•FERNANDO	2304	11	F1	4821												
8 24	21 50	39.2921	1	20 3	23.39	22	12	13.7	4	9004	S•FERNANDO	2304	20	F1	4822												
8 25	3 8	39.6259	1	3 50	36.18	-14	52	35.7	4	9002	OLFANTSFTN	2126	13	BL	7206												
8 25	7 6	43.4836	1	1 15	49.50	23	38	1.2	4	9007	AREQUIPA	2164	9	F1	6722												
8 25	7 9	25.5365	1	1 58	33.14	17	2	23.1	4	9007	AREQUIPA	2164	14	F1	6723												
8 25	7 18	55.8221	1	3 24	5.15	13	35	34.8	4	9011	V•DOLORES	1435	5	JV	6939												
8 25	7 20	23.0627	1	3 44	25.76	10	45	34.2	4	9011	V•DOLORES	1435	10	JV	6940												
8 25	9 39	31.2870	1	4 38	38.49	-36	1	6.9	4	9007	AREQUIPA	2169	4	DD	7730												
8 25	9 43	52.7319	10	5 25	7.57	-15	56	46.0	4	9011	V•DOLORES	1439	9	LW	7042												
8 25	9 45	26.8431	10	6 7	22.94	-18	2	48.2	4	9011	V•DOLORES	1439	14	LW	7043												
8 25	18 7	51.0472	1	2 50	44.38	13	37	20.6	4	9003	WOMERA	3231	2	CS	7207												
8 25	18 9	26.7250	1	3 14	15.37	10	24	27.2	4	9003	WOMERA	3231	12	CS	7208												
8 25	21 38	41.7858	1	19 8	19.55	22	0	27.1	4	9004	S•FERNANDO	2312	7	SK	6235												
8 25	21 39	1.7842	1	19 24	25.37	21	48	41.4	4	9004	S•FERNANDO	2312	12	SK	6236												
8 25	21 39	31.5032	1	19 47	27.33	21	20	13.7	4	9004	S•FERNANDO	2312	18	SK	6237												
8 26	2 56	17.1823	1	3 17	13.26	-13	59	5.2	4	9002	OLFANTSFTN	2134	6	DD	7495												
8 26	2 57	20.9570	1	3 40	21.47	-16	35	33.2	4	9002	OLFANTSFTN	2134	11	DD	7496												
8 26	2 58	29.0528	1	4 6	32.68	-19	13	21.2	4	9002	OLFANTSFTN	2134	17	DD	7503												
8 26	4 14	0.4222	1	18 47	3.23	34	46	50.7	4	9010	JUPITER	1755	23	BL	6238												
8 26	9 19	25.8475	1	1 22	8.91	-13	52	44.8	4	9007	AREQUIPA	2176	11	DD	8377												
8 26	9 23	30.8890	1	2 35	42.62	-25	46	13.4	4	9007	AREQUIPA	2176	19	DD	8378												
8 26	9 26	43.0674	1	3 48	48.33	-34	6	33.5	4	9007	AREQUIPA	2176	22	DD	8379												

Satellite 1959 Eta

26 August - 4 September 1960

DATE Y M D	TIME (A-1)			RMS			R.A.(1950.0)			DECL.(1950.0)			RMS			STATION	FRAME NO.	MS	OBS. NO.
	H	M	S	H	M	S	D	M	S	D	M	S	D	M	S				
1960 8 26	9 31	27.5092	10	4 44	9.35	-15 33	9.0	4	9011	V.DOLORES	1442	7	CS	6724					
8 26	10 32	42.612	30	17 27	43.80	22 1	57.7	4	9005	TOKYO	1733	7	ZL	8613					
8 26	21 27	25.3772	1	18 39	23.08	21 1	31.7	4	9004	S.FERNANDO	2319	4	SK	6367					
8 26	21 28	50.5924	1	19 50	20.51	19 47	32.9	4	9004	S.FERNANDO	2319	23	SK	6369					
8 27	6 54	53.3660	10	2 48	39.49	13 1	13.4	4	9011	V.DOLORES	1446	9	BL	7497					
8 27	8 27	21 17	7.6388	1	19 0	23.56	19 27	38.8	4	9004	S.FERNANDO	2324	11	YK	6113				
8 27	21 17	43.6370	1	19 31	32.17	18 43	55.8	4	9004	S.FERNANDO	2324	18	YK	6114					
8 28	1 34	5.4240	1	17 31	11.39	57 4	7.8	4	9010	JUPITER	1764	5	LU	4721					
8 28	1 34	32.1040	1	18 16	27.82	57 12	34.6	4	9010	JUPITER	1764	8	BC	4722					
8 28	1 35	24.1629	1	19 37	25.81	54 58	51.6	4	9010	JUPITER	1764	20	LU	4723					
8 28	8 28	6 43	33.2576	1	2 41	3.67	11 22	42.4	4	9011	V.DOLORES	1453	13	GN	6725				
8 28	6 46	28.4299	1	3 21	4.51	15 43	14.9	4	9011	V.DOLORES	1453	18	GN	6726					
8 28	9 0	40.3719	1	2 15	49.68	-28 34	41.1	4	9007	AREQUIPA	2186	19	CS	6455					
8 28	9 8	44.6371	1	4 22	5.67	-18 21	27.9	4	9011	V.DOLORES	1456	12	FN	7044					
8 29	2 21	36.1347	1	2 38	31.80	-17 40	1.4	4	9002	OLFANTSFTN	2152	2	DD	8380					
8 29	8 29	2 23	23.1150	1	3 15	5.06	-21 38	24.0	4	9002	OLFANTSFTN	2152	9	DD	8381				
8 29	6 31	29.2329	1	2 23	56.20	11 11	50.3	4	9011	V.DOLORES	1460	8	GN	7211					
8 29	8 57	23.6093	1	4 13	2.69	-19 44	4.3	4	9011	V.DOLORES	1463	18	FN	7212					
8 29	19 44	17.3251	3	2 38	55.32	-17 26	49.6	4	9003	WOMERA	3262	3	ZL	6456					
8 29	20 54	57.5263	1	18 12	2.90	16 47	56.2	4	9004	S.FERNANDO	2339	4	AY	5890					
8 29	8 29	20 55	37.2218	1	18 51	52.65	16 5	53.4	4	9004	S.FERNANDO	2339	13	AY	5891				
8 29	20 56	1.2200	1	19 14	39.35	15 26	23.0	4	9004	S.FERNANDO	2339	19	AY	5892					
8 30	2 11	46.4757	1	3 2	18.66	-22 42	5.1	4	9002	OLFANTSFTN	2160	10	DD	8382					
8 30	2 12	27.2834	1	3 16	48.07	-24 3	44.4	4	9002	OLFANTSFTN	2160	13	DD	8383					
8 30	20 44	29.1544	1	18 22	21.62	14 41	17.4	4	9004	S.FERNANDO	2347	11	FN	4823					
8 30	8 30	20 45	1.1515	1	18 55	16.63	13 51	10.3	4	9004	S.FERNANDO	2347	17	FN	4824				
8 30	20 45	17.1498	1	19 10	54.91	13 19	46.6	4	9004	S.FERNANDO	2347	21	FN	4825					
8 31	1 2	1.3084	1	17 14	18.22	59 50	24.6	4	9010	JUPITER	1781	6	AY	6457					
8 31	1 3	35.3208	1	20 10	27.09	53 16	59.4	4	9010	JUPITER	1781	25	SK	6458					
8 31	1 58	11.3813	1	2 11	22.78	-19 33	51.4	4	9002	OLFANTSFTN	2168	5	JV	7498					
8 31	19 15	2.4411	10	4 7	36.09	-29 10	17.5	4	9002	OLFANTSFTN	2168	13	JV	7499					
8 31	1 59	56.9427	1	2 46	2.00	-23 21	1.9	4	9002	AREQUIPA	2197	16	JV	6728					
8 31	8 25	35.1162	1	1 35	1.49	-30 58	25.9	4	9007	AREQUIPA	2203	9	LW	7504					
9 1	8 15	42.6003	1	1 58	37.43	-36 5	34.2	4	9007	AREQUIPA	3288	17	BL	8384					
9 1	19 12	22.5010	10	3 5	34.79	-25 43	40.9	4	9003	WOMERA	3288	28	GN	8385					
9 1	19 15	2.4411	10	4 7	36.09	-29 10	17.5	4	9003	WOMERA	3288	28							
9 2	1 36	43.3408	1	2 24	24.59	-25 32	44.0	4	9002	OLFANTSFTN	2178	7	JV	7213					
9 2	8 2	32.5306	1	1 16	44.86	-33 37	27.5	4	9007	AREQUIPA	2206	10	PG	7506					
9 2	8 13	39.1129	1	4 23	23.79	-26 18	50.0	4	9011	V.DOLORES	1484	17	JV	7507					
9 2	16 39	51.9407	10	2 36	23.25	-5 30	29.6	4	9003	WOMERA	3291	15	JV	7899					
9 2	16 41	49.8168	10	3 6	23.26	-8 50	55.8	4	9003	WOMERA	3291	27	JV	7900					
9 2	9 2	1 36	43.3408	1	2 24	24.59	-25 32	44.0	4	9002	OLFANTSFTN	2178	7	JV	7213				
9 2	8 13	36.9588	10	1 16	44.86	-33 37	27.5	4	9007	AREQUIPA	2206	10	PG	7506					
9 2	16 39	51.9407	10	4 23	23.79	-26 18	50.0	4	9011	V.DOLORES	1484	17	JV	7507					
9 2	16 41	49.8168	10	3 6	23.26	-8 50	55.8	4	9003	WOMERA	3291	15	JV	7899					
9 2	9 2	1 36	43.3408	1	2 24	24.59	-25 32	44.0	4	9002	OLFANTSFTN	2178	7	JV	7213				
9 2	8 13	36.9588	10	1 16	44.86	-33 37	27.5	4	9007	AREQUIPA	2206	10	PG	7506					
9 2	16 39	51.9407	10	4 23	23.79	-26 18	50.0	4	9011	V.DOLORES	1484	17	JV	7507					
9 2	16 41	49.8168	10	3 6	23.26	-8 50	55.8	4	9003	WOMERA	3291	15	JV	7899					
9 2	9 2	1 36	43.3408	1	2 24	24.59	-25 32	44.0	4	9002	OLFANTSFTN	2178	7	JV	7213				
9 2	8 13	36.9588	10	1 16	44.86	-33 37	27.5	4	9007	AREQUIPA	2206	10	PG	7506					
9 2	16 39	51.9407	10	4 23	23.79	-26 18	50.0	4	9011	V.DOLORES	1484	17	JV	7507					
9 2	16 41	49.8168	10	3 6	23.26	-8 50	55.8	4	9003	WOMERA	3291	15	JV	7899					
9 2	9 2	1 36	43.3408	1	2 24	24.59	-25 32	44.0	4	9002	OLFANTSFTN	2178	7	JV	7213				
9 2	8 13	36.9588	10	1 16	44.86	-33 37	27.5	4	9007	AREQUIPA	2206	10	PG	7506					
9 2	16 39	51.9407	10	4 23	23.79	-26 18	50.0	4	9011	V.DOLORES	1484	17	JV	7507					
9 2	16 41	49.8168	10	3 6	23.26	-8 50	55.8	4	9003	WOMERA	3291	15	JV	7899					
9 2	9 2	1 36	43.3408	1	2 24	24.59	-25 32	44.0	4	9002	OLFANTSFTN	2178	7	JV	7213				
9 2	8 13	36.9588	10	1 16	44.86	-33 37	27.5	4	9007	AREQUIPA	2206	10	PG	7506					
9 2	16 39	51.9407	10	4 23	23.79	-26 18	50.0	4	9011	V.DOLORES	1484	17	JV	7507					
9 2	16 41	49.8168	10	3 6	23.26	-8 50	55.8	4	9003	WOMERA	3291	15	JV	7899					
9 2	9 2	1 36	43.3408	1	2 24	24.59	-25 32	44.0	4	9002	OLFANTSFTN	2178	7	JV	7213				
9 2	8 13	36.9588	10	1 16	44.86	-33 37	27.5	4	9007	AREQUIPA	2206	10	PG	7506					
9 2	16 39	51.9407	10	4 23	23.79	-26 18	50.0	4	9011	V.DOLORES	1484	17	JV	7507					
9 2	16 41	49.8168	10	3 6	23.26	-8 50	55.8	4	9003	WOMERA	3291	15	JV	7899					
9 2	9 2	1 36	43.3408	1	2 24	24.59	-25 32	44.0	4	9002	OLFANTSFTN	2178	7	JV	7213				
9 2	8 13	36.9588	10	1 16	44.86	-33 37	27.5	4	9007	AREQUIPA	2206	10	PG	7506					
9 2	16 39	51.9407	10	4 23	23.79	-26 18	50.0	4	9011	V.DOLORES	1484	17	JV	7507					
9 2	16 41	49.8168	10	3 6	23.26	-8 50	55.8	4	9003	WOMERA	3291	15	JV	7899					
9 2	9 2	1 36	43.3408	1	2 24	24.59	-25 32	44.0	4	9002	OLFANTSFTN	2178	7	JV	7213				
9 2	8 13																		

Satellite 1959 Eta

4-14 September 1960

DATE Y M D	TIME (A-1) H M S	RMS			RaA (1950.0)			DECL. (1950.0)			BNS			STATION	FRAME NO.	MS	OBS. NO.
		H	M	S	D	H	M	S	D	H	M	S	D	H	M	S	
1960 9 4	18 37 48.9088	1	2	42	21.99	-28	37	8.8	4	9003	Woomera	3304	24	PG	7512		
	18 41 48.5037	1	4	13	27.36	-32	7	17.9	4	9003	Woomera	3304	38	PG	7513		
9 5	15 24 26.532	3	17	13	35.46	10	11	6.8	4	9006	Naini Tal	1647	5	LW	8614		
9 5	15 26 19.966	3	19	5	11.03	1	49	30.0	4	9006	Naini Tal	1647	26	LW	8615		
9 6	6 34 14.9812	1	18	56	45.28	48	14	23.9	4	9012	Maui	2489	3	KS	7516		
9 6	6 35 18.0393	1	20	22	10.00	39	7	14.1	4	9012	Maui	2489	47	KS	7517		
9 6	15 13 50.765	3	17	10	47.04	6	22	5.8	4	9006	Naini Tal	1653	11	CA	8387		
9 6	15 14 49.866	3	18	11	27.35	1	45	16.2	4	9006	Naini Tal	1653	24	CA	8388		
9 6	15 16 58.548	3	20	7	39.40	-8	20	21.4	4	9006	Naini Tal	1653	50	CA	8389		
9 7	15 3 26.593	3	17	19	32.60	1	20	41.8	4	9006	Naini Tal	1659	17	PG	8616		
9 7	15 5 14.560	3	19	9	15.70	-7	57	22.7	4	9006	Naini Tal	1659	35	PG	8617		
9 7	15 6 39.430	3	20	19	6.32	-13	47	19.5	4	9006	Naini Tal	1659	49	PG	8618		
9 7	21 35 53.1763	1	17	56	32.78	-23	13	59.4	4	9004	S.Fernando	2400	15	CS	7520		
9 8	6 59 25.3812	1	1	53	56.78	-26	29	4.1	4	9011	V.Dolores	1530	11	JV	7901		
9 8	7 1 58.3931	1	2	47	59.45	-29	16	25.2	4	9011	V.Dolores	1530	18	JV	7902		
9 8	7 5 30.2943	1	4	2	34.91	-30	37	36.7	4	9011	V.Dolores	1530	26	JV	7903		
9 8	9 21 19.3613	1	2	40	53.31	-34	44	7.1	4	9011	V.Dolores	1534	14	JV	7521		
9 8	9 24 32.6013	1	3	59	13.00	-35	49	3.6	4	9011	V.Dolores	1534	20	JV	7522		
9 9	0 16 35.3992	1	1	47	37.61	-34	47	36.3	4	9002	Olfantsftn	2217	6	FI	7524		
9 9	2 41 1.9037	1	3	28	57.29	-46	3	33.0	4	9002	Olfantsftn	2220	2	CS	7525		
9 9	2 43 17.0765	1	4	31	50.66	-45	33	35.7	4	9002	Olfantsftn	2220	15	CS	7526		
9 10	2 29 22.6942	1	3	21	19.57	-45	53	15.0	4	9002	Olfantsftn	2227	3	GS	7215		
9 10	2 31 40.4689	1	4	24	0.29	-45	12	12.1	4	9002	Olfantsftn	2227	16	GS	7216		
9 10	5 51 39.3335	1	18	38	16.13	36	53	22.6	4	9012	Maui	2504	2	AY	7527		
9 10	5 52 33.8259	1	20	0	42.93	25	43	38.8	4	9012	Maui	2504	25	AY	7528		
9 10	17 25 51.6620	30	1	7	0.08	-30	11	0.7	4	9003	Woomera	3327	7	JV	8620		
9 10	17 28 10.6607	30	1	58	40.45	-33	3	31.9	4	9003	Woomera	3327	13	JV	8621		
9 10	17 30 42.0885	30	2	56	36.69	-34	35	57.5	4	9003	Woomera	3327	28	JV	8622		
9 10	19 53 30.9585	3	4	12	26.86	-34	54	56.6	4	9003	Woomera	3334	24	JV	7904		
9 10	19 54 2.3392	3	4	25	19.52	-34	29	8.7	4	9003	Woomera	3334	28	JV	7905		
9 11	6 26 13.3794	3	2	8	23.24	-30	35	56.2	4	9011	V.Dolores	1544	7	CS	7734		
9 11	8 52 24.9977	1	4	42	29.58	-32	56	41.7	4	9011	V.Dolores	1548	28	PG	7532		
9 12	2 7 52.7051	1	3	55	48.13	-44	51	12.3	4	9002	Olfantsftn	2244	4	JV	7217		
9 12	6 14 19.8510	1	1	55	44.90	-31	1	26.8	4	9011	V.Dolores	1553	5	LW	7906		
9 12	8 31 30.0187	1	1	6	46.32	-32	14	37.0	4	9011	V.Dolores	1557	9	CA	7534		
9 12	8 36 36.8653	1	3	50	36.21	-57	39	9.4	4	9007	Arequipa	2269	6	LW	7535		
9 12	8 37 33.4716	1	3	19	25.70	-34	55	29.1	4	9011	V.Dolores	1557	19	CA	7536		
9 12	8 37 44.9501	1	4	24	6.13	-56	43	32.9	4	9007	Arequipa	2269	11	LW	7537		
9 12	8 42 28.5641	1	6	20	14.43	-48	52	16.8	4	9007	Arequipa	2269	18	LW	7538		
9 12	8 43 12.7933	1	5	27	38.83	-28	51	32.9	4	9011	V.Dolores	1557	30	CA	7539		
9 13	1 53 31.3510	1	2	38	27.59	-45	21	51.3	4	9002	Olfantsftn	2254	3	CS	7907		
9 14	0 55 34.2555	1	18	37	57.07	-7	29	16.0	4	9009	Curacao	1690	4	CA	7530		
9 14	0 55 57.9525	1	19	2	33.52	-11	7	49.6	4	9009	Curacao	1690	8	CA	7531		
9 14	8 9 24.8455	1	1	41	51.68	-57	23	21.6	4	9007	Arequipa	2279	14	LW	7908		
9 14	8 12 37.3873	1	3	19	2.06	-57	31	40.7	4	9007	Arequipa	2279	18	LW	7909		

DATE Y M D	TIME (A-1)			RMS			R.A.(1950.0)			DECL.(1950.0)			RMS			STATION	FRAME NO.	MS	OBS. NO.
	H	M	S	MS	H	M	S	D	M	S	D	M	S	D	M	S			
1960 9 14	8 20	3.4807	1	6 17	52.42	-45 40	10.3	4	9007	AREQUIPA	2279	32	LW	7910					
9 15	1 32	1.9868	1	3 15	23.36	-44 23	37.9	4	9002	OLFANTSFTN	2274	8	JV	7219					
9 15	5 43	35.9869	1	3 11	29.36	-32 42	34.2	4	9011	V.DOLORES	1562	5	CS	7735					
9 15	5 45	34.9469	10	3 50	25.25	-31 21	12.8	4	9011	V.DOLORES	1562	7	CS	7736					
9 15	8 1	18.2240	1	2 32	6.13	-34 19	20.6	4	9011	V.DOLORES	1566	3	LW	7540					
9 15	8 5	33.4047	1	4 8	22.56	-30 55	59.7	4	9011	V.DOLORES	1566	13	LW	7541					
9 16	0 28	36.1327	1	15 51	33.57	-26 48	4.5	4	9010	JUPITER	1821	7	JV	7911					
9 16	0 30	29.7819	1	17 55	16.60	-39 37	14.4	4	9010	JUPITER	1821	25	JV	7912					
9 16	0 34	9.4504	1	18 17	6.86	-19 13	38.8	4	9009	CURACAO	1698	9	CA	7738					
9 16	1 19	51.6291	1	2 56	59.48	-44 23	47.2	4	9002	OLFANTSFTN	2285	4	JV	7220					
9 17	0 23	8.8333	1	17 45	10.37	-21 55	36.6	4	9009	CURACAO	1702	7	LW	7542					
9 17	0 24	5.7592	1	18 50	59.42	-30 39	43.4	4	9009	CURACAO	1702	24	LW	7543					
9 17	1 8	47.1444	1	3 7	8.42	-43 33	19.4	4	9002	OLFANTSFTN	2290	8	GN	7544					
9 17	7 38	1.8445	1	2 22	31.52	-33 31	12.7	4	9011	V.DOLORES	1576	10	CS	7913					
9 17	7 40	2.0263	1	3 8	41.28	-32 4	58.8	4	9011	V.DOLORES	1576	13	CS	7914					
9 17	16 10	22.2241	10	2 44	59.74	-35 55	24.4	4	9003	WOOMERA	3358	3	FN	8875					
9 17	16 13	17.6671	10	3 47	1.88	-32 54	40.1	4	9003	WOOMERA	3358	21	FN	8876					
9 17	18 27	56.6370	1	1 57	43.34	-33 19	25.0	4	9003	WOOMERA	3361	7	CA	7739					
9 18	18 15	8.1522	1	1 26	6.43	-33 1	40.9	4	9003	WOOMERA	3370	3	FI	7740					
9 18	18 18	37.9664	1	2 45	57.88	-31 15	43.7	4	9003	WOOMERA	3370	10	FI	7741					
9 18	18 24	29.9491	1	4 45	22.61	-22 12	35.7	4	9003	WOOMERA	3370	23	FI	7742					
9 18	18 27	11.4724	1	0 11	28.34	-57 0	55.5	4	9007	AREQUIPA	2293	14	TM	9180					
9 19	18 3	21.1040	10	1 17	23.78	-32 34	35.9	4	9003	WOOMERA	3378	3	JV	8623					
9 19	18 5	59.4827	10	2 18	32.45	-31 21	37.7	4	9003	WOOMERA	3378	10	JV	8624					
9 19	18 7	10.1685	10	2 45	17.75	-30 13	7.5	4	9003	WOOMERA	3378	17	JV	8625					
9 19	23 50	50.1197	1	16 56	15.54	-35 44	35.3	4	9009	CURACAO	1722	8	CA	7545					
9 20	0 32	31.5312	1	2 18	53.11	-43 31	46.7	4	9002	OLFANTSFTN	2309	2	JV	7546					
9 20	0 34	43.7078	1	3 15	46.52	-40 45	17.7	4	9002	OLFANTSFTN	2309	12	JV	7547					
9 20	3 0	9.2191	1	4 44	25.70	-13 44	17.4	4	9002	OLFANTSFTN	2314	8	GS	7221					
9 20	3 1	58.1980	1	5 15	54.61	-9 23	37.6	4	9002	OLFANTSFTN	2314	16	GS	7222					
9 21	23 29	6.0155	1	16 10	11.37	-41 7	9.0	4	9009	CURACAO	1734	16	LW	7552					
9 22	23 18	23.8753	1	15 59	14.83	-45 10	51.6	4	9009	CURACAO	1739	17	CA	7553					
9 26	16 48	6.1610	10	3 1	0.86	-17 5	38.6	4	9003	WOOMERA	3409	10	FN	8877					
9 26	16 50	9.5243	10	3 39	12.52	-12 37	34.2	4	9003	WOOMERA	3409	22	FN	8878					
9 26	19 3	29.6637	1	1 44	30.41	-4 54	18.3	4	9003	WOOMERA	3413	3	CA	7745					
9 26	19 6	47.9057	1	2 35	9.31	-1 1	50.2	4	9003	WOOMERA	3413	13	CA	7746					
9 27	8 0	40.4521	1	1 32	54.59	-6 28	55.4	4	9011	V.DOLORES	1624	2	FN	7747					
9 27	8 4	52.4187	1	2 42	16.28	-1 9	27.7	4	9011	V.DOLORES	1624	11	FN	7748					
9 27	8 9	53.5286	1	3 58	11.93	11 10	3.4	4	9011	V.DOLORES	1624	19	FN	7749					
9 27	8 17	24.2840	1	6 13	28.95	-30 58	39.8	4	9009	CURACAO	1766	12	GN	7557					
9 27	8 19	59.1704	1	6 46	41.34	-24 39	35.0	4	9009	CURACAO	1766	17	GN	7558					
9 27	16 36	29.6173	10	2 55	33.97	-15 21	3.7	4	9003	WOOMERA	3422	3	FN	8879					
9 27	16 39	8.4481	10	3 43	43.85	-9 29	40.3	4	9003	WOOMERA	3422	20	FN	8880					
9 27	18 17	9.8116	1	20 56	53.61	-24 26	56.0	4	9002	OLFANTSFTN	2337	13	CS	7917					
9 27	18 57	9.1597	1	2 58	49.05	6 50	24.9	4	9003	WOOMERA	3425	23	CS	7559					

Satellite 1959 Eta

25 September - 13 October 1960

DATE Y M D	TIME (A-1)			R.A.(1950.0)			DECL.(1950.0)			RMS			STATION	FRAME NO.	MS	OBS.NO.
	H	M	S	H	M	S	D	M	S	S	S	S				
1960 9 28	0 46	40.88446	1	19 27	58.15	3	14 55.2	4	9011	V.DOLORES	1628	10	FN	7750		
9 28	0 48	32.2041	1	21 21	28.53	-9 26	40.1	4	9011	V.DOLORES	1628	18	FN	7751		
9 28	7 49	1.0056	3	1 25	46.46	-4 49	35.7	4	9011	V.DOLORES	1634	3	FN	7752		
9 28	11 38	32.9267	1	20 23	51.15	-16 34	28.0	4	9003	WOOMERA	3432	24	F1	7753		
9 28	18 40	22.6868	1	1 33	44.37	-1 13	50.1	4	9003	WOOMERA	3435	7	CS	7918		
9 28	18 42	7.1649	1	2 1	0.36	2	0	4.4	4	9003	WOOMERA	3435	15	CS	7919	
9 28	18 44	20.2839	1	2 34	56.05	6 22	14.1	4	9003	WOOMERA	3435	23	CS	7920		
9 28	23 33	2.735	3	8 32	50.71	-8 35	35.2	4	9006	NAINI TAL	1728	15	GN	8395		
9 29	7 39	27.8231	3	1 54	16.44	0 47	32.9	4	9011	V.DOLORES	1644	3	GN	7755		
9 29	11 28	32.1622	3	21 31	6.46	-24 37	33.7	4	9003	WOOMERA	3443	31	FN	8881		
9 29	14 31	14.8862	1	6 37	40.86	-20 28	24.4	4	9012	MAUI	2560	10	GN	7756		
9 29	17 54	13.9553	1	19 19	28.46	-22 37	5.3	4	9002	OLFANTSFTN	2344	4	CA	7921		
9 29	17 55	19.9197	1	21 3	2.05	-32 26	3.5	4	9002	OLFANTSFTN	2344	24	CA	7922		
9 29	18 33	30.1726	1	2 40	23.72	9 55	51.4	4	9003	WOOMERA	3452	3	FN	7923		
9 30	1 0	4.2207	1	2 39	53.57	-2 30	9.4	4	9002	OLFANTSFTN	2348	5	PG	7560		
9 30	1 1	35.0630	1	3 6	23.11	-1 4	27.2	4	9002	OLFANTSFTN	2348	12	PG	7561		
9 30	11 17	37.1564	3	21 39	9.74	-27 4	50.8	4	9003	WOOMERA	3456	26	FN	8882		
9 30	14 20	44.8041	1	6 45	56.81	-15 49	18.8	4	9012	MAUI	2564	25	JV	7760		
9 30	18 18	34.1773	1	1 42	30.09	5 12	56.3	4	9003	WOOMERA	3464	11	CA	7761		
10 1	0 47	30.8124	1	2 15	57.54	-2 29	53.4	4	9002	OLFANTSFTN	2356	6	KM	8396		
10 1	1 18	7.4730	3	7 31	21.99	-8 47	17.6	4	9008	SHIRAZ	1795	28	JV	9697		
10 4	16 58	45.0920	1	16 58	41.87	-31 33	34.2	4	9002	OLFANTSFTN	2388	6	JV	7924		
10 4	16 59	17.8800	1	18 1	31.87	-41 24	16.9	4	9002	OLFANTSFTN	2388	14	SV	7925		
10 4	17 0	2.9360	1	20 1	41.76	-50 26	13.1	4	9002	OLFANTSFTN	2388	28	JV	7926		
10 5	11 20	26.9395	1	6 36	16.12	-4 8	39.8	4	9001	ORGAN PASS	2308	11	KS	8103		
10 6	4 42	21.7730	1	7 5	6.53	-1 42	13.0	4	9004	S.FERNANDO	2504	17	KS	8400		
10 7	9 58	42.0123	10	17 41	10.32	-27 42	50.0	4	9003	WOOMERA	3516	4	CA	8884		
10 7	9 59	46.6943	10	20 12	18.51	-39 40	9.5	4	9003	WOOMERA	3516	23	CA	8885		
10 8	4 18	3.1620	1	6 42	32.55	0 10	9.4	4	9004	S.FERNANDO	2512	15	LE	7764		
10 11	11 31	4.3619	10	18 10	40.14	-31 8	56.2	4	9003	WOOMERA	3531	3	CA	8626		
10 11	11 32	44.2767	10	21 1	25.46	-36 8	43.1	4	9003	WOOMERA	3531	25	CA	8627		
10 11	12 10	8.3296	1	5 17	36.57	0 56	23.8	4	9012	MAUI	2591	8	LE	8401		
10 11	12 12	28.7317	1	5 51	39.39	6 30	50.2	4	9012	MAUI	2591	21	LE	8402		
10 11	14 31	44.6543	1	5 18	36.87	30 35	30.4	4	9012	MAUI	2596	3	BW	8888		
10 11	14 33	47.6030	1	6 1	8.39	34 28	41.7	4	9012	MAUI	2596	15	BW	8889		
10 11	14 36	7.2845	1	6 51	49.73	-37 41	22.1	4	9012	MAUI	2596	31	BW	8890		
10 12	3 27	28.0786	1	5 31	43.53	-0 1	32.5	4	9004	S.FERNANDO	2539	11	PG	7927		
10 12	3 30	2.5072	1	6 11	38.61	4 38	11.3	4	9004	S.FERNANDO	2539	20	PG	7928		
10 12	7 42	14.7473	1	5 55	30.59	2 6	53.2	4	9010	JUPITER	1882	20	SY	9183		
10 12	7 43	39.8177	1	5 28	23.96	5 25	48.4	4	9010	JUPITER	1882	25	SY	9184		
10 12	11 20	42.1031	3	19 4	37.44	-33 34	10.8	4	9003	WOOMERA	3541	8	GN	8891		
10 12	11 21	36.7332	3	20 53	4.56	-34 33	39.7	4	9003	WOOMERA	3541	18	GN	8892		
10 13	1 16	13.3819	10	6 14	45.37	30 16	37.4	4	9008	SHIRAZ	1877	25	GN	9754		
10 13	1 17	33.3892	10	6 44	7.47	31 57	34.7	4	9008	SHIRAZ	1877	29	GN	9755		
10 13	3 14	36.6682	1	5 10	36.58	-0 43	45.9	4	9004	S.FERNANDO	2546	10	BW	8408		

Satellite 1959 Eta

13-17 October 1960

DATE Y M D	TIME H M S	TIME (A-1)			RMS MS	R.A.(1950.0)			DECL.(1950.0)	RMS D M S	STATION	FRAME NO.	MS	OBS.NO.	
		H	M	S		H	M	S							
1960 10 13	3 17	32.1752	1	5 56	44.28	4	47	30.6	4	9004	S•FERNANDO	2546	30	BW	8409
10 13	7 29	11.4204	1	4 39	9.76	0	33	16.8	4	9010	JUPITER	1892	13	ES	8628
10 13	11 10	30.3622	10	20 46	18.42	-32	36	20.8	4	9003	WOOMERA	3551	10	CA	8893
10 13	14 5	29.3759	1	4 17	53.41	28 19	0.2	4	9012	MAUI	2608	15	BB	8526	
10 13	14 9	3.9387	1	5 32	4.85	35 46	13.5	4	9012	MAUI	2608	30	BB	8527	
10 13	14 10	44.9621	1	6 9	20.49	38 13	57.5	4	9012	MAUI	2608	38	BB	8528	
10 13	18 27	53.5198	1	5 5	58.64	9 51	36.6	4	9005	TOKYO	1819	3	BW	8104	
10 14	1 5	47.6614	3	6 44	4.30	33 0	30.1	4	9008	SHIRAZ	1886	7	BW	9699	
10 14	1 8	29.5722	3	7 45	18.39	34 35	17.8	4	9008	SHIRAZ	1886	22	BW	9700	
10 14	5 25	48.6189	1	6 7	14.29	22 15	53.8	4	9004	S•FERNANDO	2557	4	WA	9080	
10 14	7 18	12.1932	1	3 31	20.07	30 39	12.6	4	9009	CURACAO	1839	2	YK	8413	
10 14	7 19	43.0686	1	4 3	7.61	34 30	18.2	4	9009	CURACAO	1839	8	YK	8414	
10 14	7 21	2.5078	1	4 31	40.30	37 23	15.8	4	9009	CURACAO	1839	14	YK	8415	
10 14	10 59	50.5710	10	21 38	28.41	-27 47	18.3	4	9003	WOOMERA	3555	5	CA	8894	
10 14	13 52	41.8487	1	3 53	25.92	27 46	8.4	4	9012	MAUI	2614	4	BK	8416	
10 14	13 54	45.6279	1	4 35	21.85	32 40	14.6	4	9012	MAUI	2614	16	BK	8417	
10 14	13 57	48.0059	1	5 42	11.74	38 8	42.6	4	9012	MAUI	2614	31	BK	8418	
10 14	17 27	3.4407	1	20 59	5.06	-75 39	55.6	4	9002	OLFANTSFTN	2408	8	KS	8106	
10 14	22 27	57.9524	3	4 47	14.21	3 26	59.1	4	9008	SHIRAZ	1892	3	BK	9701	
10 14	22 30	6.0664	3	5 23	49.07	8 19	13.8	4	9008	SHIRAZ	1892	12	BK	9702	
10 14	22 36	37.399	3	4 43	9.32	23 8	56.6	4	9006	NAINI TAL	1777	4	GN	8419	
10 14	22 38	44.711	3	5 25	46.74	27 7	24.7	4	9006	NAINI TAL	1777	18	GN	8420	
10 15	0 52	27.3953	3	6 9	3.88	32 24	18.5	4	9008	SHIRAZ	1898	4	YK	9703	
10 15	0 54	8.8899	3	6 47	13.95	34 2	13.9	4	9008	SHIRAZ	1898	12	YK	9704	
10 15	7 8	52.7592	1	4 18	56.15	38 38	24.6	4	9009	CURACAO	1843	5	AY	8629	
10 15	18 4	26.5816	1	5 1	35.84	12 55	42.9	4	9005	TOKYO	1825	8	LW	8107	
10 16	0 38	7.5760	1	5 12	56.31	30 3	14.0	4	9008	SHIRAZ	1906	13	JV	9705	
10 16	0 40	55.1289	1	6 14	44.90	33 44	26.0	4	9008	SHIRAZ	1906	29	JV	9706	
10 16	0 43	4.7387	1	7 4	5.05	35 11	12.4	4	9008	SHIRAZ	1906	39	JV	9707	
10 16	5 2	2.0363	1	6 1	27.58	24 0	22.8	4	9004	S•FERNANDO	2573	7	BK	8897	
10 16	5 3	51.0498	1	6 39	19.84	25 33	45.3	4	9004	S•FERNANDO	2573	19	BK	8898	
10 16	13 27	52.8117	3	3 17	13.06	28 22	13.9	4	9012	MAUI	2623	2	SK	8423	
10 16	13 30	23.5776	3	4 11	6.91	34 39	20.9	4	9012	MAUI	2623	22	SK	8424	
10 16	13 32	56.3305	3	5 10	16.46	39 22	30.6	4	9012	MAUI	2623	32	SK	8425	
10 17	0 25	9.0962	3	4 46	15.63	29 24	32.9	4	9008	SHIRAZ	1915	6	SK	9388	
10 17	0 29	7.0231	3	6 15	3.18	34 39	27.1	4	9008	SHIRAZ	1915	23	SK	9390	
10 17	0 31	16.5097	3	7 4	40.59	35 44	55.8	4	9008	SHIRAZ	1915	33	SK	9391	
10 17	2 28	44.6521	1	5 16	13.88	6 54	10.5	4	9004	S•FERNANDO	2577	18	BS	8899	
10 17	9 5	27.3083	1	5 18	16.76	36 6	14.8	4	9010	JUPITER	1913	30	BK	8427	
10 17	10 25	45.6563	3	19 26	31.88	-22 23	43.6	4	9003	WOOMERA	3573	6	GN	8630	
10 17	10 27	21.8666	3	22 58	0.17	- 8	56	49.0	4	9003	WOOMERA	3573	28	GN	8631
10 17	13 17	19.6926	3	3 37	59.005	33 32	2.57	4	9012	MAUI	2628	13	SV	8592	
10 17	13 18	46.2103	3	4 11	25.828	36 50	35.64	4	9012	MAUI	2628	21	SV	8593	
10 17	13 21	11.7207	3	5 10	25.584	40 58	29.04	4	9012	MAUI	2628	26	SV	8853	
10 17	22 2	50.2220	3	5 10	20.31	30 26	58.2	4	9006	NAINI TAL	1801	6	BK	8632	

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18-22 October 1960

DATE Y M D	TIME H M S	RMS MS	R.A.(1950.0)			DECL.(1950.0)			STATION	FRAME NO.	MS	OBS. NO.
			H	M	S	U	M	S				
1960 10 18	0 12 10.9364	3	4 19 8.23	28	37 35.2	4	9008	SHIRAZ	1922	6	BW	9392
10 18	0 14 51.6897	3	5 18 28.80	33	3 47.2	4	9008	SHIRAZ	1922	22	BW	9393
10 18	10 14 11.2851	3	18 14 3.58	-19	55 57.1	4	9003	WOOMERA	3581	4	KS	8633
10 18	10 14 34.9213	3	19 6 33.72	-19	6 4.9	4	9003	WOOMERA	3581	12	KS	8634
10 18	10 15 42.3316	3	21 50 42.58	-10	7 24.3	4	9003	WOOMERA	3581	26	KS	8635
10 18	17 27 54.2326	1	4 29 49.29	14	35 46.3	4	9005	TOKYO	1834	7	PG	8108
10 19	0 1 40.7961	3	4 45 48.41	32	15 45.8	4	9008	SHIRAZ	1929	6	BD	9394
10 19	0 4 48.3517	3	5 59 56.94	35	48 10.3	4	9008	SHIRAZ	1929	15	SK	9395
10 19	10 5 18.3785	3	22 59 41.42	0	53 0.2	4	9003	WOOMERA	3590	37	CA	8901
10 19	10 53 47.0188	1	5 22 10.12	31	19 42.3	4	9001	ORGAN PASS	2339	22	SK	7766
10 19	21 36 21.225	3	3 59 51.48	28	6 11.6	4	9006	NAINI TAL	1812	18	GN	8428
10 19	23 50 0.7134	3	4 47 48.44	33	39 43.5	4	9008	SHIRAZ	1935	10	ZM	9396
10 20	17 5 39.9763	3	4 52 52.66	19	7 9.6	4	9005	TOKYO	1843	4	JV	8430
10 20	19 30 32.5990	3	7 1 18.69	29	23 2.3	4	9005	NAINI TAL	1849	4	JV	8431
10 20	21 26 24.753	10	4 42 25.22	32	42 43.9	4	9006	NAINI TAL	1820	4	SK	9086
10 20	21 28 12.419	10	5 27 27.32	34	43 1.4	4	9006	NAINI TAL	1820	15	SK	9087
10 20	21 29 23.998	10	5 56 47.85	35	26 54.7	4	9006	NAINI TAL	1820	23	SK	9088
10 20	21 31 47.722	10	6 52 14.37	35	38 14.6	4	9006	NAINI TAL	1820	34	SK	9089
10 20	21 34 15.832	10	7 42 45.77	34	27 18.8	4	9006	NAINI TAL	1820	47	SK	9090
10 20	21 35 50.882	10	8 11 23.70	33	11 50.6	4	9006	NAINI TAL	1820	56	SK	9091
10 20	23 42 38.1176	3	6 37 11.81	37	16 46.8	4	9008	SHIRAZ	1944	15	SK	9399
10 20	23 53 17.842	3	7 38 34.49	38	30 31.1	4	9006	NAINI TAL	1826	9	LW	8432
10 20	23 55 29.597	3	8 29 28.39	35	59 16.2	4	9006	NAINI TAL	1826	25	LW	8433
10 21	8 19 53.9742	1	6 2 39.90	41	12 45.7	4	9010	JUPITER	1929	14	YN	9457
10 21	16 55 2.8517	3	5 17 19.76	21	33 48.8	4	9005	TOKYO	1851	7	JV	8636
10 21	19 14 27.3925	3	5 26 43.25	28	56 51.7	4	9005	TOKYO	1856	2	WA	9093
10 21	19 17 1.1915	10	6 24 15.86	29	32 25.0	4	9005	TOKYO	1856	11	WA	9094
10 21	21 14 54.725	3	4 48 55.40	34	14 45.8	4	9006	NAINI TAL	1827	17	LE	8637
10 21	21 18 1.831	3	6 8 17.61	36	11 6.2	4	9006	NAINI TAL	1827	35	LE	8638
10 21	23 27 31.2995	3	5 15 29.87	36	52 50.1	4	9008	SHIRAZ	1949	7	KS	9400
10 21	23 39 23.762	3	6 49 34.58	39	17 56.6	4	9006	NAINI TAL	1831	4	YK	8639
10 21	23 41 43.253	3	7 45 45.90	37	29 51.5	4	9006	NAINI TAL	1831	22	YK	8640
10 21	23 43 22.553	3	8 23 3.81	35	21 28.4	4	9006	NAINI TAL	1831	30	YK	8641
10 22	8 3 58.7526	1	4 10 59.35	38	47 25.3	4	9010	JUPITER	1930	4	GN	9185
10 22	8 6 59.0511	1	5 34 36.52	41	36 31.6	4	9010	JUPITER	1930	19	GN	9186
10 22	8 8 31.6724	1	4 26 53.02	61	48 4.7	4	9009	CURACAO	1861	10	ZM	7767
10 22	10 18 53.1086	1	5 35 56.25	33	47 33.6	4	9001	ORGAN PASS	2357	19	PG	9095
10 22	21 3 7.588	3	4 48 19.10	35	18 7.9	4	9006	NAINI TAL	1835	3	PG	8642
10 22	21 4 57.369	3	5 37 17.24	36	31 17.9	4	9006	NAINI TAL	1835	14	PG	8643
10 22	21 7 11.049	3	6 32 11.76	36	26 31.9	4	9006	NAINI TAL	1835	26	PG	8644
10 22	21 8 57.377	3	7 10 53.17	35	28 12.9	4	9006	NAINI TAL	1835	37	PG	8645
10 22	21 10 56.512	3	7 48 49.54	33	45 43.5	4	9006	NAINI TAL	1835	47	PG	8646
10 22	23 12 57.3139	3	4 0 41.15	34	33 18.9	4	9008	SHIRAZ	1954	4	BD	9401
10 22	23 15 19.3037	3	5 5 8.97	37	23 13.0	4	9008	SHIRAZ	1954	16	BD	9402
10 22	23 34 26.970	3	9 21 33.26	28	43 46.0	4	9006	NAINI TAL	1838	30	LW	8435

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DATE Y M D	TIME (A-1)			RMS			R.A.(1950.0) H M S			DEC.(1950.0) D M S			STATION			FRAME NO.			MS			OBS.NO.			
	H	M	S	H	M	S	H	M	S	D	M	S	H	M	S	H	M	S	H	M	S	H	M	S	
1960 10 23	1 41	3.3696	3	7 35	33.10	4	35 14	23.2	4	9008	SHIRAZ	1959 3	2L	9403											
10 23	7 55	27.9463	1	5 43	48.80	4	42 18	4.6	4	9010	JUPITER	1932 6	NL	9096											
10 23	10 3	16.9713	1	3 58	8.61	4	30 38	52.1	4	9001	ORGAN PASS	2363 3	2L	8647											
10 23	10 5	40.9212	1	5 0	25.87	4	33 29	43.5	4	9001	ORGAN PASS	2363 19	2L	8648											
10 23	10 7	25.5184	1	5 45	33.28	4	34 17	36.0	4	9001	ORGAN PASS	2363 25	2L	8649											
10 23	10 19	7.4515	1	6 10	38.30	4	42 9	18.0	4	9010	JUPITER	1935 5	GN	9187											
10 23	10 20	58.9323	1	7 19	45.47	4	40 30	7.7	4	9010	JUPITER	1935 15	GN	9188											
10 23	23 1	49.9796	10	4 17	9.16	4	38 8	0.9	4	9010	JUPITER	1935 25	GN	9189											
10 23	23 4	5.8055	10	5 21	24.72	4	36 35	59.8	4	9008	SHIRAZ	1961 2	LW	9708											
10 23	23 53	1.0982	3	5 42	17.04	4	38 22	36.3	4	9008	SHIRAZ	1961 11	SK	9709											
10 24	1 24	9.7013	3	5 36	9.27	4	37 18	58.4	4	9008	SHIRAZ	1964 2	BK	9404											
10 24	1 25	37.6681	3	6 11	30.08	4	37 10	4.8	4	9008	SHIRAZ	1964 12	BK	3270											
10 24	7 41	41.4303	1	4 46	55.99	4	42 25	43.0	4	9010	JUPITER	1938 21	DD	8066											
10 24	22 51	9.7101	3	4 48	53.79	4	38 31	21.1	4	9008	SHIRAZ	1968 7	LE	9405											
10 24	22 53	1.0982	3	5 42	17.04	4	38 53	13.8	4	9008	SHIRAZ	1968 15	LE	9406											
10 24	23 0	4.952	100	5 17	34.99	4	39 5	56.0	4	9006	NAINI TAL	1850 4	BK	8437											
10 24	23 1	55.012	100	6 4	53.49	4	38 55	17.5	4	9006	NAINI TAL	1850 16	BK	8438											
10 24	23 7	41.804	100	8 18	25.70	4	32 2	36.3	4	9006	NAINI TAL	1850 55	BK	8439											
10 24	1 15	48.3739	10	7 0	55.30	4	35 2	8.3	4	9008	SHIRAZ	1971 15	BS	9710											
10 24	1 18	52.0227	10	8 8	10.28	4	30 40	20.1	4	9008	SHIRAZ	1971 28	BS	9711											
10 24	23 1	33.1855	1	5 37	38.29	4	43 22	2.0	4	9010	JUPITER	1945 3	SK	3093											
10 25	7 31	34.2771	1	6 32	47.87	4	41 58	46.0	4	9010	JUPITER	1945 13	SK	3094											
10 25	7 35	29.1306	1	7 16	57.83	4	39 43	5.5	4	9010	JUPITER	1945 21	SK	3095											
10 25	9 41	14.1190	1	4 36	5.83	4	34 0	20.3	4	9001	ORGAN PASS	2370 9	BD	7768											
10 25	9 52	9.0913	1	5 59	33.85	4	41 33	50.0	4	9010	JUPITER	1949 3	SY	9292											
10 25	10 25	9 52	9.0913	5 38	28.10	4	40 36	19.2	4	9010	JUPITER	1949 11	SY	9293											
10 25	10 25	9 56	14.8268	1	7 40	42.88	4	37 23	18.6	4	9010	JUPITER	1949 24	SY	9294										
10 25	12 3	39.9751	1	6 1	19.59	4	30 21	60.0	4	9001	ORGAN PASS	2373 3	CA	7929											
10 25	12 5	28.7382	1	6 41	48.10	4	29 3	60.0	4	9001	ORGAN PASS	2373 15	CA	7930											
10 25	12 9	11.6776	1	7 59	38.80	4	24 7	40.0	4	9001	ORGAN PASS	2373 31	CA	7931											
10 25	12 9	11.6776	1	5 27	20.39	4	27 27	15.1	4	9008	SHIRAZ	1975 7	AY	9407											
10 26	1 24	43.3337	3	6 7	53.22	4	36 8	31.5	4	9008	SHIRAZ	1975 17	AY	9408											
10 26	1 25	59.4318	1	6 56	30.68	4	34 17	32.6	4	9008	SHIRAZ	1975 28	AY	9409											
10 26	9 30	10.8678	1	7 54	47.90	4	30 21	13.4	4	9008	S.FERNANDO	2598 5	WA	8902											
10 26	9 31	12.5972	1	4 27	6.30	4	26 25	53.5	4	9004	S.FERNANDO	2598 21	WA	9097											
10 26	9 32	10.1568	1	5 56	9.05	4	34 26	32.8	4	9004	S.FERNANDO	2384 12	KS	8440											
10 26	9 20	29.7755	1	6 22	5.01	4	21 45	52.0	4	9004	S.FERNANDO	2601 4	WA	9098											
10 26	9 21	41.1590	1	7 8	25.33	4	19 18	49.4	4	9004	S.FERNANDO	2601 20	WA	9099											
10 26	9 25	5.4481	1	4 56	40.85	4	34 51	26.6	4	9001	ORGAN PASS	2376 10	YK	7933											
10 26	9 30	12.4163	1	5 26	3.35	4	34 56	7.4	4	9001	ORGAN PASS	2376 18	YK	7934											
10 26	9 31	12.4163	1	5 56	9.05	4	34 26	32.8	4	9001	ORGAN PASS	2384 12	KS	2769											
10 27	11 39	15.5200	1	7 18	8.91	4	36 37	2.2	4	9010	JUPITER	1955 4	KS	9295											
10 27	11 42	15.5200	1	8 1	53.96	4	32 51	7.9	4	9010	JUPITER	1955 14	KS	9296											
10 27	11 42	15.5200	1	8 48	14.35	4	27 30	56.3	4	9010	JUPITER	1955 25	KS	9297											
10 27	11 42	15.5200	1	5 43	20.97	4	29 15	44.2	4	9001	ORGAN PASS	2388 4	LE	2770											
10 27	11 42	15.5200	1	6 51	51.39	4	26 14	18.6	4	9001	ORGAN PASS	2388 19	LE	2770											

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DATE Y M D	TIME (A-1) H M S	RMS			DECL.(1950.0)			RMS			STATION	FRAME NO.	MS	OBS. NO.	
		H	M	S	D	M	S	D	M	S					
1960 10 27	13 42 50.8398	1	4	57	32.28	54	32	30.6	4	9012	MAUI	2634	11	BW	
10 27	13 44 49.2409	1	6	4	2.30	53	28	22.2	4	9012	MAUI	2634	20	BW	
10 28	6 58 34.1958	1	5	17	15.32	66	16	53.6	4	9009	CURACAO	1880	7	ZL	
10 28	9 25 29.6101	1	8	8	33.07	48	24	32.0	4	9009	CURACAO	1884	11	LE	
10 28	9 27 29.2602	1	8	50	23.83	44	1	54.3	4	9009	CURACAO	1884	20	LE	
10 29	0 26 57.5234	3	6	27	22.00	32	39	9.9	4	9008	SHIRAZ	1987	14	KS	
10 29	4 51 5.8188	1	7	16	36.89	14	0	40.8	4	9004	S.FERNANDO	2606	16	GN	
10 29	9 1 9.6119	3	4	19	35.74	40	49	39.3	4	9010	JUPITER	1962	9	PG	
10 29	9 3 54.1724	3	5	38	1.00	39	55	32.7	4	9010	JUPITER	1962	12	PG	
10 29	9 6 4.4698	3	6	35	53.53	37	10	52.5	4	9010	JUPITER	1962	24	PG	
10 29	9 8 29.8607	3	7	31	57.59	32	39	19.8	4	9010	JUPITER	1962	32	PG	
10 29	9 9 57.9248	3	8	1	15.29	29	29	42.7	4	9010	JUPITER	1962	37	PG	
10 29	9 12 56.6810	1	7	52	12.48	48	22	6.2	4	9009	CURACAO	1890	7	LE	
10 29	9 15 12.2007	1	8	39	56.77	43	19	2.2	4	9009	CURACAO	1890	13	LE	
10 29	11 14 50.4014	1	5	25	16.99	27	56	49.4	4	9001	ORGAN PASS	2395	3	GN	
10 29	11 17 10.6207	1	6	19	49.54	25	29	10.3	4	9001	ORGAN PASS	2395	11	GN	
10 29	11 19 57.3237	1	7	18	38.64	21	4	53.6	4	9001	ORGAN PASS	2395	23	GN	
10 30	0 13 56.7442	3	5	57	36.68	33	7	0.3	4	9008	SHIRAZ	1990	13	KS	
10 31	0 3 38.6387	3	6	34	34.94	29	31	14.4	4	9008	SHIRAZ	1995	5	LW	
10 31	10 50 40.3741	1	5	9	9.70	26	17	54.4	4	9001	ORGAN PASS	2402	6	LW	
10 31	10 52 37.9604	1	5	57	0.04	23	57	23.1	4	9001	ORGAN PASS	2402	16	LW	
10 31	10 54 31.6015	1	6	39	34.59	20	52	47.2	4	9001	ORGAN PASS	2402	27	LW	
10 31	23 50 21.6827	3	5	57	18.77	30	42	9.5	4	9008	SHIRAZ	1999	18	LW	
11 1	4 10 5.7613	1	5	17	11.07	16	59	58.4	4	9004	S.FERNANDO	2609	4	AY	
11 1	4 12 10.1453	1	6	3	0.62	14	19	21.6	4	9004	S.FERNANDO	2609	19	AY	
11 1	4 13 22.1469	1	6	27	48.07	12	28	57.8	4	9004	S.FERNANDO	2609	28	AY	
11 1	8 36 17.8134	3	7	24	9.76	46	29	59.7	4	9009	CURACAO	1902	18	YK	
11 1	23 35 18.7597	3	4	23	17.84	33	30	12.9	4	9008	SHIRAZ	2004	3	SY	
11 1	23 36 49.9564	3	5	8	24.27	32	3	32.6	4	9008	SHIRAZ	2004	8	SY	
11 1	23 38 52.4491	3	6	4	12.68	28	45	13.7	4	9008	SHIRAZ	2004	17	SY	
11 2	8 25 37.5769	3	7	48	21.62	42	1	34.1	4	9009	CURACAO	1906	18	YK	
11 2	10 26 59.0133	1	5	2	16.97	23	53	57.4	4	9001	ORGAN PASS	2411	8	BS	
11 2	10 28 54.9468	1	5	50	57.76	21	0	37.2	4	9001	ORGAN PASS	2411	14	BS	
11 2	14 57 1.4818	1	7	0	22.02	23	51	24.8	4	9012	MAUI	2659	4	BK	
11 2	14 59 10.9512	1	7	42	1.68	18	31	35.0	4	9012	MAUI	2659	12	BK	
11 2	15 1 41.7238	1	8	25	10.45	12	0	18.9	4	9012	MAUI	2659	23	BK	
11 3	8 13 21.7626	3	7	37	14.86	41	32	26.5	4	9009	CURACAO	1913	16	SY	
11 3	14 46 50.8490	1	7	29	50.81	17	25	35.8	4	9012	MAUI	2664	23	LE	
11 4	10 17 22.6078	1	6	56	27.06	0	0	43.1	4	9010	JUPITER	1985	4	BK	
11 6	14 7 54.3552	1	6	9	13.27	19	30	6.8	4	9012	MAUI	2673	6	YN	
11 6	14 9 53.1383	1	6	51	13.43	14	2	47.3	4	9012	MAUI	2673	25	YN	
11 7	7 23 2.4170	1	6	12	4.78	44	37	13.4	4	9009	CURACAO	1930	4	BB	
11 7	9 40 30.8321	1	6	20	5.50	-	4	10	38.2	4	9010	JUPITER	2004	7	LW
11 7	13 58 52.3250	1	7	3	0.41	9	10	12.9	4	9012	MAUI	2682	20	SY	
11 7	13 59 22.4953	1	7	12	27.83	7	43	55.2	4	9012	MAUI	2682	23	SY	

DATE Y M D	TIME (A-1)			RMS			RA (1950.0) H M S			DEC (1950.0) D M S			STATION			FRAME NO.			MS		OBS. NO.	
	H	M	S	H	M	S	H	M	S	D	M	S	W	E	N	S	W	E	N	S		
1960 11 8	9 23	57.9413	3	4 45	32.24	4	13	29.6	4	9010	JUPITER	2013	11	YK	8665	8666	8666	8666	8666	8666	8666	
11 8	9 25	32.3647	3	5 16	28.42	0	42	30.8	4	9010	JUPITER	2013	17	YK	8666	8666	8666	8666	8666	8666	8666	
11 8	9 27	59.8855	3	6 2	38.60	-5	2	59.5	4	9010	JUPITER	2013	25	YK	8667	8667	8667	8667	8667	8667	8667	
11 8	13 45	16.9202	1	6 22	32.60	11	46	23.4	4	9012	MAUI	2692	5	NL	8907	8907	8907	8907	8907	8907	8908	
11 8	13 47	12.0804	1	7 1	29.87	6	4	58.0	4	9012	MAUI	2692	26	NL	8908	8908	8908	8908	8908	8908	8908	
11 9	7 1	36.1937	10	6 59	43.93	34	0	53.4	4	9009	CURACAO	1945	9	NL	9419	9419	9419	9419	9419	9419	9419	
11 9	9 24	39.9233	3	7 4	40.94	-6	32	24.7	4	9009	CURACAO	1950	11	PG	8668	8668	8668	8668	8668	8668	8668	
11 9	23 46	1.8566	3	18 57	21.57	60	34	26.6	4	9009	CURACAO	1953	23	FN	8669	8669	8669	8669	8669	8669	8669	
11 10	9 12	30.4691	10	6 54	29.58	-8	29	38.4	4	9009	CURACAO	1961	13	KS	8909	8909	8909	8909	8909	8909	8909	
11 10	11 12	5.7324	1	4 49	12.62	-11	28	58.8	4	9001	ORGAN PASS	2434	9	GN	8451	8451	8451	8451	8451	8451	8451	
11 10	11 14	5.9986	1	5 23	27.42	-15	41	11.4	4	9001	ORGAN PASS	2434	13	GN	8452	8452	8452	8452	8452	8452	8452	
11 10	23 34	39.9202	3	18 18	12.95	59	50	28.0	4	9009	CURACAO	1964	16	BW	9298	9298	9298	9298	9298	9298	9298	
11 11	6 40	15.2822	10	7 35	45.49	21	2	25.7	4	9009	CURACAO	1967	9	PG	8910	8910	8910	8910	8910	8910	8910	
11 11	8 58	59.1195	10	6 20	17.75	-6	30	53.5	4	9009	CURACAO	1970	15	LE	8670	8670	8670	8670	8670	8670	8670	
11 12	0 0	11.4943	3	5 10	33.27	-14	27	55.5	4	9008	SHIRAZ	2089	5	LE	9420	9420	9420	9420	9420	9420	9420	
11 12	4 20	2.8709	1	4 54	13.49	-20	37	29.9	4	9004	S.FERNANDO	2628	6	KS	8454	8454	8454	8454	8454	8454	8454	
11 12	8 39	52.7038	1	5 21	1.05	-13	4	36.8	4	9010	JUPITER	2043	3	KS	8455	8455	8455	8455	8455	8455	8455	
11 12	8 40	40.7113	1	5 36	52.15	-15	3	30.6	4	9010	JUPITER	2043	9	KS	8456	8456	8456	8456	8456	8456	8456	
11 12	8 47	57.9897	10	6 28	47.78	-11	44	26.5	4	9009	CURACAO	1982	12	GN	8671	8671	8671	8671	8671	8671	8671	
11 12	23 11	57.5875	3	17 18	11.62	58	14	2.6	4	9009	CURACAO	1985	5	YN	9421	9421	9421	9421	9421	9421	9421	
11 12	23 13	1.3765	3	18 58	44.16	79	22	55.3	4	9009	CURACAO	1985	21	YN	9422	9422	9422	9422	9422	9422	9422	
11 13	1 23	12.3278	1	23 34	38.12	-33	39	46.4	4	9001	ORGAN PASS	2456	10	GN	8457	8457	8457	8457	8457	8457	8457	
11 13	1 23	40.4637	1	0 13	53.12	-28	46	21.2	4	9001	ORGAN PASS	2456	17	GN	8458	8458	8458	8458	8458	8458	8458	
11 13	9 36	40.9394	10	6 32	50.20	-16	12	48.1	4	9009	CURACAO	1992	27	FI	8672	8672	8672	8672	8672	8672	8672	
11 17	5 0	5.0573	3	17 37	59.87	73	30	19.2	4	9012	MAUI	2732	5	BW	8463	8463	8463	8463	8463	8463	8463	
11 17	7 48	37.4711	1	5 53	11.67	-25	38	18.7	4	9009	CURACAO	2026	15	JV	8464	8464	8464	8464	8464	8464	8464	
11 17	8 2	26.5729	1	9 16	44.76	6 44	29.2	4	9011	V.DOLORES	1825	19	CA	9103	9103	9103	9103	9103	9103	9103		
11 17	8 4	55.8714	1	9 51	52.81	1	24	48.7	4	9011	V.DOLORES	1825	27	CA	9104	9104	9104	9104	9104	9104	9104	
11 17	8 6	16.0236	1	10 10	25.09	-1	11	27.5	4	9011	V.DOLORES	1825	33	CA	9105	9105	9105	9105	9105	9105	9105	
11 18	1 17	17.3066	1	8 50	6.10	7	2	9.7	4	9002	OLFANTSFTN	2518	16	LW	8465	8465	8465	8465	8465	8465	8465	
11 18	7 35	59.5616	1	5 28	16.85	-26	2	2.7	4	9009	CURACAO	2035	5	GN	8466	8466	8466	8466	8466	8466	8466	
11 18	7 48	44.0704	1	8 47	39.87	9	12	14.0	4	9011	V.DOLORES	1829	16	BK	8675	8675	8675	8675	8675	8675	8675	
11 18	7 56	27.1039	1	10 37	27.17	-6	26	44.8	4	9011	V.DOLORES	1829	24	BK	8676	8676	8676	8676	8676	8676	8676	
11 18	9 10	0.4721	1	23 27	40.92	-14	49	28.8	4	9005	TOKYO	1946	10	PG	8467	8467	8467	8467	8467	8467	8467	
11 18	14 7	37.9903	1	5 8	2.22	-37	34	59.1	4	9012	MAUI	2746	23	LE	8913	8913	8913	8913	8913	8913	8913	
11 19	8 58	42.9891	1	23 25	24.16	-13	15	57.6	4	9005	TOKYO	1956	10	PG	8468	8468	8468	8468	8468	8468	8468	
11 19	18 22	46.2221	1	7 22	51.84	14 20	46.9	4	9003	WOMERA	3757	11	LW	8677	8677	8677	8677	8677	8677	8677		
11 19	18 27	46.5907	1	8 45	33.02	1	29	17.9	4	9003	WOMERA	3757	26	LW	8678	8678	8678	8678	8678	8678	8678	
11 20	13 44	4.7356	10	4 51	23.75	-41	53	41.0	4	9012	MAUI	2757	7	LE	9423	9423	9423	9423	9423	9423	9423	
11 20	13 46	36.8431	10	5 38	50.64	-47	23	17.0	4	9012	MAUI	2757	21	LE	9424	9424	9424	9424	9424	9424	9424	
11 20	23 58	5.3506	1	22 28	8.21	80	3	3.8	4	9010	JUPITER	2107	12	BW	8914	8914	8914	8914	8914	8914	8914	
11 21	7 16	0.7186	1	9 25	57.01	-2	37	11.6	4	9011	V.DOLORES	1835	7	YK	8679	8679	8679	8679	8679	8679	8679	
11 21	18 0	8.7208	1	7 33	37.50	8 13	40.0	4	9003	WOMERA	3766	9	SY	8915	8915	8915	8915	8915	8915	8915		
11 21	18 2	59.2069	1	8 24	12.01	0 27	56.4	4	9003	WOMERA	3766	17	SY	8916	8916	8916	8916	8916	8916	8916		
11 21	18 6	26.4745	1	9 23	21.00	-7	33	8.0	4	9003	WOMERA	3766	26	LE	8917	8917	8917	8917	8917	8917	8917	

Satellite 1959 Eta

DATE Y M D	TIME (A-1)			RMS MS			R.A.(1950.0) H M S			DECL.(1950.0) D M S			RMS S			STATION	FRAME NO.	MS	OBS.NO.
	H	M	S	H	M	S	D	M	S	D	M	S	D	M	S				
1960 11 21	23	46	58.8228	1	1	14	6.33	79	28	8.8	4	9010	JUPITER	2117	17	YK	8469		
	6	45	33.2168	1	1	7	27	57.79	11	56	0.8	4	9011	V.DOLORES	1843	13	YK	3918	
11 23	6	47	24.2819	1	8	1	53.88	6	23	8.2	4	9011	V.DOLORES	1843	18	YK	8919		
11 23	6	50	57.7978	1	9	3	11.48	-2	54	16.4	4	9011	V.DOLORES	1843	25	YK	8920		
11 23	17	34	17.4297	1	6	43	44.46	11	44	25.5	4	9003	WOOMERA	3773	12	YK	8682		
11 23	17	39	16.0432	1	8	21	1.93	-3	0	1.6	4	9003	WOOMERA	3773	26	YK	8683		
11 23	23	25	2.4797	1	3	44	35.64	62	32	14.5	4	9010	JUPITER	2136	33	YK	8684		
11 24	17	25	53.2041	1	7	49	18.59	-0	22	42.0	4	9003	WOOMERA	3777	21	PG	8470		
11 25	6	20	17.6584	3	6	46	50.79	14	46	33.7	4	9011	V.DOLORES	1851	4	BK	8685		
11 25	6	23	50.0191	3	7	58	52.21	3	10	48.1	4	9011	V.DOLORES	1851	9	BK	8686		
11 25	6	24	14.0232	3	8	6	35.48	1	59	21.4	4	9011	V.DOLORES	1851	12	BK	8687		
11 25	17	11	47.9337	1	6	58	29.91	5	15	13.3	4	9003	WOOMERA	3782	12	JV	8688		
11 25	17	13	42.2640	1	7	39	48.58	-0	55	0.8	4	9003	WOOMERA	3782	18	JV	8689		
11 25	18	43	5.1561	1	21	40	53.60	1	11	25.2	4	9004	S.FERNANDO	2697	7	LE	9524		
11 25	18	43	42.7230	1	23	29	20.56	1	6	56.9	4	9004	S.FERNANDO	2697	20	LE	9525		
11 26	17	1	5.2954	1	7	19	42.05	0	5	47.5	4	9003	WOOMERA	3788	27	KS	8471		
11 27	5	58	25.4510	1	1	7	16	3.79	6	24	24.0	4	9011	V.DOLORES	1859	10	YK	8690	
11 27	6	0	4.0846	1	7	51	58.29	0	51	8.1	4	9011	V.DOLORES	1859	15	YK	8691		
11 27	16	49	14.0805	1	7	15	45.92	-1	13	3.4	4	9003	WOOMERA	3795	21	GN	8472		
11 28	18	9	6.5518	1	21	42	29.11	2	36	57.6	4	9004	S.FERNANDO	2705	15	KS	8473		
11 29	7	51	19.5289	1	6	27	6.04	-48	44	31.4	4	9007	AREQUIPA	2540	9	KS	8474		
11 29	17	57	47.2354	1	21	45	43.32	3	0	22.2	4	9004	S.FERNANDO	2712	6	CA	8476		
11 30	16	12	52.8669	1	6	39	0.93	-1	32	59.2	4	9003	WOOMERA	3814	4	LW	8477		
12 1	1	0	11.2066	1	7	24	50.97	-37	28	24.0	4	9002	OLFANTSFTN	2538	2	KR	9190		
12 1	16	1	38.0957	1	6	50	48.00	-4	52	7.2	4	9003	WOOMERA	3821	8	YN	8692		
12 2	15	49	59.5830	1	6	51	12.24	-6	33	25.2	4	9003	WOOMERA	3831	9	GN	8693		
12 2	15	51	35.0602	3	7	40	29.00	-12	6	37.8	4	9003	WOOMERA	3831	23	GN	8694		
12 2	23	57	47.4801	10	19	35	21.98	42	20	59.5	4	9010	JUPITER	2189	6	YK	8925		
12 3	8	35	33.633	1	21	22	6.16	-7	15	9.2	4	9005	TOKYO	2025	4	CA	385		
12 4	15	27	14.2369	3	7	11	4.75	-11	41	51.2	4	9003	WOOMERA	3846	3	GN	8695		
12 4	17	46	41.8578	3	7	44	49.00	-36	30	56.2	4	9003	WOOMERA	3853	31	GN	8696		
12 5	15	15	25.0906	3	7	6	3.13	-12	29	44.8	4	9003	WOOMERA	3859	2	GN	8697		
12 5	17	32	50.1478	3	6	27	43.15	-34	17	29.0	4	9003	WOOMERA	3865	7	GN	8698		
12 5	17	34	41.3986	3	7	39	56.97	-37	10	31.8	4	9003	WOOMERA	3865	14	GN	8699		
12 6	1	34	38.5236	1	20	40	2.81	-14	39	20.9	4	9001	ORGAN PASS	2547	6	K5	8700		
12 6	1	35	48.9568	1	22	40	33.75	-27	56	22.8	4	9001	ORGAN PASS	2547	23	K5	8701		
12 6	6	6	34	8.7152	1	8	50	44.91	-34	6	2.2	4	9011	V.DOLORES	1938	11	YK	8927	
12 6	15	4	8.0092	3	7	20	56.13	-15	0	7.2	4	9003	WOOMERA	3875	3	AY	8928		
12 6	17	21	22.4193	3	6	39	32.58	-36	6	53.1	4	9003	WOOMERA	3879	9	GN	8702		
12 6	17	22	38.8259	3	7	32	36.43	-37	46	13.1	4	9003	WOOMERA	3879	19	GN	8703		
12 7	17	7	59.4211	3	5	28	58.53	-33	5	47.7	4	9003	WOOMERA	3898	4	AY	9106		
12 7	17	9	19.5035	3	6	26	53.00	-36	39	23.1	4	9003	WOOMERA	3898	10	WA	9107		
12 7	17	12	47.7351	3	8	52	27.92	-37	37	16.2	4	9003	WOOMERA	3898	21	WA	9108		
12 8	16	59	35.7147	3	8	0	32.08	-38	55	54.5	4	9003	WOOMERA	3916	2	ES	8931		
12 9	16	44	30.6926	1	5	18	41.98	-35	22	35.0	4	9003	WOOMERA	3930	5	AY	8932		

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9-20 December 1960

DATE Y M D	TIME (A-1)			RMS			DECL.(1950.0)			RMS			STATION	FRAME NO.	MS	OBS.NO.
	H	M	S	H	M	S	D	M	S	H	M	S				
1960 12 9	16 46	52.8004	1	7 19	9.62	-39 34 44.7	4	9003	WOOMERA	3930	19	AY	8933			
	5 2	22.3493	1	21 27	48.99	-26 16 32.8	4	9012	MAUI	2816	8	AY	8934			
12 11	16 23	3.3247	1	7 4	28.45	-40 40 55.1	4	9003	WOOMERA	3951	4	BW	9191			
12 11	16 24	40.6124	1	8 27	57.02	-38 32 43.9	4	9003	WOOMERA	3951	19	BW	9192			
12 11	18 41	52.4532	1	7 41	48.38	-29 49 24.8	4	9003	WOOMERA	3958	12	GN	8935			
12 11	18 44	9.6142	1	8 57	27.11	-26 40 21.3	4	9003	WOOMERA	3958	27	GN	8936			
	22 48	46.0042	1	5 35	49.85	-54 50 1.5	4	9002	OLFANTSFTN	2555	13	AY	2247			
12 12	18 29	59.4785	1	7 38	51.66	-28 44 29.0	4	9003	WOOMERA	3965	11	GN	9425			
12 12	18 32	25.0020	1	9 1	3.62	-24 43 50.5	4	9003	WOOMERA	3965	23	GN	9194			
12 13	7 27	38.3848	1	9 2	35.25	-62 38 47.6	4	9007	AREQUIPA	2582	21	KS	8938			
12 14	7 23	22.1169	1	11 7	56.14	-9 12 42.3	4	9011	V.DOLORES	1987	21	PG	3274			
12 14	15 46	43.5534	3	5 41	10.74	-42 3 59.9	4	9003	WOOMERA	3975	14	GN	8939			
12 14	18 5	29.8883	3	7 1	29.52	-27 3 52.1	4	9003	WOOMERA	3980	7	KS	8940			
12 14	18 7	54.9649	3	8 32	40.82	-22 51 21.0	4	9003	WOOMERA	3980	20	KS	8941			
12 14	22 13	22.5331	1	4 39	8.18	-59 57 5.4	4	9002	OLFANTSFTN	2582	6	YK	2246			
12 15	0 32	21.2166	1	6 36	1.37	-47 53 6.7	4	9002	OLFANTSFTN	2588	3	YK	3275			
12 15	0 33	58.2340	1	8 6	25.70	-45 15 43.6	4	9002	OLFANTSFTN	2588	17	YK	3276			
12 15	15 35	35.9565	3	6 21	56.24	-42 55 41.2	4	9003	WOOMERA	3992	12	YK	8943			
12 15	17 56	59.0971	3	9 1	1.88	-18 22 27.1	4	9003	WOOMERA	4000	2	YK	8704			
12 16	15 23	47.7027	3	6 9	15.45	-43 29 28.2	4	9003	WOOMERA	4012	14	YK	8944			
12 16	17 44	11.4004	3	8 25	24.84	-18 53 53.3	4	9003	WOOMERA	4021	2	YK	8945			
12 17	6 41	38.7843	1	8 20	53.18	-19 51 39.4	4	9011	V.DOLORES	2023	5	PG	3278			
12 17	6 41	42.7841	1	8 23	32.55	-19 39 23.5	4	9011	V.DOLORES	2023	6	PG	3279			
12 17	15 48	45.4341	1	13 5	57.11	-24 59 30.8	4	9012	MAUI	2840	11	YK	8705			
12 18	1 48	30.7915	1	22 30	8.55	-56 32 17.4	4	9007	AREQUIPA	2621	13	GN	8946			
12 18	8 51	8.7910	1	10 3	40.55	-15 52 37.1	4	9007	AREQUIPA	2630	22	NL	8706			
12 18	8 53	0.5094	1	10 45	48.15	-9 2 23.6	4	9007	AREQUIPA	2630	26	NL	8707			
12 18	8 56	1.7128	1	11 41	16.06	0 44 52.6	4	9007	AREQUIPA	2630	33	NL	8708			
12 18	9 0	6.7560	1	12 30	4.87	-31 14 51.0	4	9009	CURACAO	2126	4	GN	8947			
12 18	9 2	16.5018	1	12 58	7.01	-24 47 27.6	4	9009	CURACAO	2126	16	GN	8948			
12 18	23 47	4.0544	10	8 12	47.45	-40 48 47.9	4	9002	OLFANTSFTN	2602	18	BK	2243			
12 19	1 37	27.2925	3	22 29	59.99	-66 38 31.0	4	9007	AREQUIPA	2634	6	GN	8709			
12 19	6 15	19.2378	1	5 56	6.15	-22 39 50.3	4	9011	V.DOLORES	2047	5	CA	8949			
12 19	6 16	43.4883	3	9 9	31.72	-62 18 49.9	4	9007	AREQUIPA	2642	14	GN	8710			
12 19	6 18	40.9629	1	8 37	59.72	-13 6 55.5	4	9011	V.DOLORES	2047	23	CA	8950			
12 19	8 42	11.4086	1	11 4	5.54	-2 14 56.6	4	9007	AREQUIPA	2646	11	LU	8711			
12 19	14 49	44.1245	10	7 25	8.83	-40 31 36.6	4	9003	WOOMERA	4047	15	AY	9426			
12 19	14 50	16.8148	10	8 4	10.51	-37 7 1.5	4	9003	WOOMERA	4047	21	AY	9427			
12 19	17 6	50.2779	1	6 47	23.64	-17 38 52.6	4	9003	WOOMERA	4055	3	CS	9428			
12 19	17 8	0.0918	10	7 41	4.35	-14 10 57.4	4	9003	WOOMERA	4055	7	CS	9429			
12 20	1 27	45.3355	1	1 21	32.53	-8 9 37.2	4	9011	V.DOLORES	2057	3	AY	9195			
12 20	1 29	27.0140	1	4 54	7.48	-9 9 53.7	4	9011	V.DOLORES	2057	17	AY	9196			
12 20	6 5	14.8820	1	7 18	55.39	-16 30 27.0	4	9011	V.DOLORES	2067	6	AY	9197			
12 20	6 8	21.0460	1	9 22	56.79	-5 29 42.9	4	9011	V.DOLORES	2067	17	AY	9198			
12 20	8 24	0.8430	3	8 16	28.01	-23 24 30.5	4	9007	AREQUIPA	2661	19	GN	8712			

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DATE Y M D	TIME H M S	R.A.(1950.0) H M S	DEC.(1950.0) D M S	RMS	STATION	FRAME NO.	MS	OBS.NO.
					9010 JUPITER	22263 15	YN 8951	
1960 12 20	10 58 7.0572	3 13 5 42.19	-15 17 18.5	4	9010 JUPITER	22263 15	YN 8951	
	11 0 20.9744	3 13 35 56.17	-10 3 35.2	4	9010 JUPITER	22263 30	YN 8952	
12 21	5 51 56.8147	1 5 43 26.13	-18 34 25.0	4	9011 V.DOLORES	2084 4	SY 9199	
12 21	5 53 8.0384	1 6 52 17.08	-15 17 41.0	4	9011 V.DOLORES	2084 14	SY 9200	
12 21	8 12 45.8531	1 8 30 3.46	-18 33 31.1	4	9007 AREQUIPA	2671 7	GN 9431	
12 21	8 14 8.46661	1 9 13 24.12	-12 40 58.3	4	9007 AREQUIPA	2671 13	GN 9430	
12 21	8 22 29.6289	1 11 53 36.61	-31 38 42.8	4	9009 CURACAO	2144 12	SY 9201	
12 21	8 26 26.6006	1 12 48 17.73	-18 25 5.2	4	9009 CURACAO	2144 19	SY 9202	
12 21	13 1 56.6583	1 13 50 57.19	-6 3 53.0	4	9001 ORGAN PASS	2589 9	GN 9203	
12 21	14 58 52.1274	1 12 26 16.68	-22 20 25.7	4	9012 MAUI	2863 12	TM 9204	
12 21	15 1 53.4810	1 13 7 13.12	-13 51 46.3	4	9012 MAUI	2863 22	TM 2774	
12 22	6 18 37.0518	1 13 9 43.12	-12 36 41.4	4	9004 S.FERNANDO	2788 4	GN 8955	
12 22	6 20 1.8762	1 13 28 55.89	-9 48 0.3	4	9004 S.FERNANDO	2788 14	GN 8956	
12 22	6 22 6.6323	1 13 57 18.69	-10 43 32.0	4	9004 S.FERNANDO	2788 29	GN 8957	
12 22	8 10 40.7999	1 11 51 44.65	-29 31 29.2	4	9009 CURACAO	2149 17	YN 8958	
12 22	8 12 31.3019	1 12 18 55.18	-22 55 43.4	4	9009 CURACAO	2149 20	YN 8959	
12 22	16 31 19.7551	1 6 8 5.43	-10 56 38.1	4	9003 WOOMERA	4068 2	BB 9432	
12 22	16 31 23.7107	1 6 11 41.69	-10 43 32.0	4	9003 WOOMERA	4068 4	BB 9433	
12 22	18 23 16.4752	1 1 36 5.12	-50 39 59.0	4	9002 OLFANTSFTN	2609 10	GN 2245	
12 22	18 24 13.0563	1 5 31 28.15	-52 20 58.7	4	9002 OLFANTSFTN	2609 21	GN 2244	
12 23	6 5 56.4754	10 12 58 10.79	-12 12 2.2	4	9004 S.FERNANDO	2793 4	GN 9205	
12 23	6 8 7.1247	10 13 28 18.77	-7 47 6.5	4	9004 S.FERNANDO	2793 11	GN 9206	
12 23	6 10 19.0870	10 13 58 45.67	-3 33 57.0	4	9004 S.FERNANDO	2793 18	GN 9207	
12 23	7 49 55.2830	1 8 5 47.97	21 19 12.2	4	9011 V.DOLORES	2103 8	GN 8960	
12 23	10 20 57.4788	3 12 41 18.61	-12 5 19.9	4	9010 JUPITER	2270 11	GN 9208	
12 23	0 45 3.1833	1 7 8 11.03	-17 21 50.5	4	9011 V.DOLORES	2106 26	GN 8961	
12 24	1 7 16.2445	1 7 48 13.84	11 2 26.3	4	9002 OLFANTSFTN	2630 15	TM 2242	
12 24	5 57 32.8085	10 13 46 47.91	-3 12 40.2	4	9004 S.FERNANDO	2794 17	CA 8962	
12 24	7 38 5.1096	3 8 36 16.37	-5 47 39.3	4	9007 AREQUIPA	2675 6	BW 8963	
12 26	0 20 6.8157	1 3 17 44.15	-19 58 9.8	4	9011 V.DOLORES	2125 8	GN 9458	
12 27	10 58 35.4898	1 1 6 16.61	-40 15 45.5	4	9003 WOOMERA	4088 9	TM 9436	
12 28	5 4 35.5031	1 12 27 44.77	-7 0 36.2	4	9004 S.FERNANDO	2797 12	AY 9459	
12 28	5 6 59.2172	1 13 5 16.90	-1 38 44.9	4	9004 S.FERNANDO	2797 29	AY 9460	
12 29	9 5 27.1771	1 11 23 22.97	-12 8 50.1	4	9010 JUPITER	2273 9	GN 9463	
12 29	9 6 20.6001	3 10 18 22.60	19 23 31.7	4	9009 CURACAO	2170 8	LE 9464	
12 29	9 7 32.9285	3 10 46 51.98	-23 37 47.4	4	9009 CURACAO	2170 12	LE 9465	
12 30	4 39 14.0501	1 12 0 38.02	-7 35 25.2	4	9004 S.FERNANDO	2800 10	SY 9466	
12 30	4 41 0.9479	1 12 31 1.00	-3 9 3.4	4	9004 S.FERNANDO	2800 22	SY 9467	
12 30	8 54 54.6148	10 12 26 7.76	24 14 17.7	4	9009 CURACAO	2174 9	SY 3092	
12 30	19 56 43.05	1 13 23 36.10	13 34 7.1	4	9005 TOKYO	2169 28	GN 386	
12 31	0 1 56.7574	10 10 56 49.10	-14 45 54.5	4	9008 SHIRAZ	2297 9	SY 9712	
12 31	0 3 54.1798	10 11 35 57.29	-8 2 35.2	4	9008 SHIRAZ	2297 21	SY 9713	
12 31	0 5 43.5687	10 12 10 25.10	-2 16 6.3	4	9008 SHIRAZ	2297 32	SY 9714	
12 31	2 25 5.5331	10 11 55 39.58	22 52 30.7	4	9008 SHIRAZ	2300 5	NL 9715	
12 31	2 27 41.5751	10 12 53 15.37	27 51 25.2	4	9008 SHIRAZ	2300 20	NL 9716	

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DATE Y M D	TIME (A-1)			R.A.(1950.0)			DEC.(1950.0)			STATION	FRAME NO.	MS	OBS.NO.
	H	M	S	H	M	S	D	M	S				
1960 12 31	19 42	3.3617	1	12 33	17.76	10 13	24.3	4	9005	TOKYO	2176	6	BB
12 31	19 42	11.3609	1	12 35	56.70	10 29	24.9	4	9005	TOKYO	2176	7	CS

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1-6 January 1961

DATE	Y	M	D	TIME (A-1)			R.A. (1950.0)			DEC.L.(1950.0)			STATION	FRAME NO.	MS	OBS.NO.
				H	M	S	H	M	S	D	H	M	S			
1961	1	4	25	50.1349	3	7	9	12.54	-86 18 48.3	4	9011	V.DOLORES	2191 15	NL	118	
	1	4	27	18.4108	3	11	23	52.43	-75 6 17.0	4	9011	V.DOLORES	2191 20	NL	119	
	1	1	12	6 36.2620	1	0	37	14.31	-72 16 37.0	4	9003	WOOMERA	4130 14	NL	307	
	1	1	12	6 40.1881	1	0	41	16.81	-72 51 2.6	4	9003	WOOMERA	4130 15	NL	308	
	1	1	16	19 49.7286	10	9	3	2.80	-69 39 45.8	4	9003	WOOMERA	4139 7	VD	120	
	1	1	16	22 13.9455	1	11	22	17.39	-47 52 31.9	4	9003	WOOMERA	4139 18	BB	121	
	1	2	23	52 27.5790	10	11	13	36.08	-48 37 29.2	4	9002	OLFANTSFTN	2644 10	NL	736	
	1	3	17	50 15.0837	3	10	19	35.42	-36 32 23.6	4	9007	AREQUIPA	2681 14	TM	122	
	1	3	11	16 45.1947	1	0	14	4.63	-67 5 36.3	4	9003	WOOMERA	4160 17	NL	845	
	1	3	11	17 51.8889	1	1	48	21.13	-76 3 33.7	4	9003	WOOMERA	4160 25	NL	1131	
	1	3	13	23 46.5145	1	23	50	8.96	-88 2 49.8	4	9003	WOOMERA	4164 11	AY	309	
	1	3	13	24 34.9698	1	11	10	23.57	-85 0 54.1	4	9003	WOOMERA	4164 19	AY	310	
	1	3	17	35 58.0473	1	7	56	14.51	-20 5 23.1	4	9003	WOOMERA	4170 4	AY	311	
	1	3	17	36 48.3814	1	8	33	12.14	-13 30 54.4	4	9003	WOOMERA	4170 10	AY	312	
	1	4	1	31 57.1134	1	8	19	26.70	-2 13 6.1	4	9002	OLFANTSFTN	2651 10	BW	737	
	1	4	5	18 47.0516	30	9	24	19.66	-57 14 16.0	4	9011	V.DOLORES	2211 17	AY	124	
	1	4	5	20 34.7921	30	10	43	25.14	-39 43 23.7	4	9011	V.DOLORES	2211 22	AY	125	
	1	4	5	22 38.6015	30	11	31	5.92	-21 2 52.9	4	9011	V.DOLORES	2211 30	AY	126	
	1	4	5	49 30.1436	1	14	33	2.43	-6 46 23.1	4	9004	S.FERNANDO	2813 11	SY	127	
	1	4	7	25 39.5840	3	10	27	22.88	-39 17 14.0	4	9007	AREQUIPA	2686 34	SY	128	
	1	4	9	39 34.0910	3	12	4	0.05	-21 2 59.2	4	9009	CURACAO	2188 4	LE	129	
	1	4	13	0 17.1299	1	11	1	10.02	-81 15 59.8	4	9003	WOOMERA	4174 25	NL	313	
	1	4	13	0 21.0519	1	11	1	53.26	-80 42 59.1	4	9003	WOOMERA	4174 26	NL	314	
	1	4	15	6 6.4281	1	9	46	1.88	-70 34 20.3	4	9003	WOOMERA	4181 9	LE	130	
	1	4	15	6 25.9822	1	10	6	46.95	-67 40 50.2	4	9003	WOOMERA	4181 11	LE	131	
	1	5	5	25 30.2420	1	14	42	27.20	-5 7 22.1	4	9004	S.FERNANDO	2822 17	TM	132	
	1	5	9	11 36.9389	1	10	6	43.62	-17 48 16.2	4	9009	CURACAO	2192 6	LE	133	
	1	5	9	14 33.7909	1	11	52	47.67	12 9 27.5	4	9009	CURACAO	2192 16	LE	134	
	1	5	12	33 1.3125	1	22	48	4.94	-77 14 44.6	4	9003	WOOMERA	4186 6	YK	135	
	1	5	12	36 1.5019	1	10	47	48.35	-77 17 17.0	4	9003	WOOMERA	4186 28	YK	136	
	1	5	14	41 49.2048	1	10	11	15.43	-67 33 31.8	4	9003	WOOMERA	4189 4	NL	137	
	1	5	14	43 0.1322	1	10	50	48.74	-56 26 40.4	4	9003	WOOMERA	4189 16	NL	138	
	1	5	16	46 4.0703	1	7	48	54.37	-27 36 19.5	4	9003	WOOMERA	4192 3	AY	139	
	1	5	16	47 38.5765	1	8	32	8.49	-20 4 52.5	4	9003	WOOMERA	4192 8	AY	140	
	1	5	18	22 0.5484	1	21	55	40.30	-76 57 54.8	4	9002	OLFANTSFTN	2661 9	AY	738	
	1	5	18	51 53.6520	1	7	34	31.52	20 1 23.2	4	9003	WOOMERA	4195 6	AY	337	
	1	5	18	52 5.4123	1	7	38	42.06	21 5 15.1	4	9003	WOOMERA	4195 9	AY	338	
	1	5	22	36 30.6895	1	9	58	11.61	-69 44 55.8	4	9002	OLFANTSFTN	2667 9	BB	739	
	1	6	0	43 26.2285	1	8	40	30.42	-2 54 41.2	4	9002	V.DOLORES	2670 10	CS	740	
	1	6	2	23 32.8196	3	10	33	36.81	-76 40 13.6	4	9011	V.DOLORES	2217 14	YK	8	
	1	6	4	29 37.2834	3	9	36	21.75	-58 34 3.7	4	9011	V.DOLORES	2219 7	LW	141	
	1	6	12	11 58.4288	10	10	34	36.45	-71 47 4.3	4	9003	WOOMERA	4199 17	AY	9	
	1	6	14	17 21.7237	1	10	19	14.88	-65 49 12.7	4	9003	WOOMERA	4202 12	PG	10	
	1	6	16	21 59.4629	10	7	40	24.16	-32 17 23.0	4	9003	WOOMERA	4205 3	AY	11	
	1	6	20	4 55.0030	1	13	57	19.47	-83 51 4.1	4	9002	OLFANTSFTN	2675 12	AY	741	

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DATE Y M D	TIME H M S	R.A.(1950.0)			DEC.L.(1950.0)			STATION	FRAME NO.	MS	OBS. NO.
		H	M	S	D	H	S				
1961 1 6	22 14 24.6439	1	11 18 12.32	-46 41 9.8	4	9002	OLFANTSFTN	2677 19	GN	742	
	4 5 4.5724	3	9 42 4.07	-58 25 21.4	4	9011	V.DOLORES	2229 4	LW	143	
	4 36 10.2561	1	14 14 58.08	-9 39 10.3	4	9004	S.FERNANDO	2828 12	SY	144	
	7 6 37.9371	3	6 2 31.38	-26 3 20.5	4	9011	V.DOLORES	2232 5	PG	145	
	6 9 24.9286	3	7 19 41.16	-14 48 53.6	4	9011	V.DOLORES	2232 12	PG	146	
1 7	14 21 3.6443	1	12 24 5.12	-9 9 17.2	4	9012	MAUI	2933 3	BW	147	
	15 58 13.6865	1	8 23 8.84	-28 34 17.6	4	9003	WOOMERA	4212 30	LE	12	
	20 24 24.1767	10	13 10 41.53	24 46 9.5	4	9005	TOKYO	2231 11	NL	315	
	20 24 31.9653	30	13 17 48.53	25 53 19.7	4	9005	TOKYO	2231 12	NL	316	
	21 48 2.0405	1	10 41 14.43	-62 44 11.2	4	9002	OLFANTSFTN	2684 16	AY	743	
1 8	1 33 20.2271	3	9 39 38.76	-83 4 35.8	4	9011	V.DOLORES	2235 9	NL	148	
	3 41 14.3289	3	10 7 58.08	-51 12 42.2	4	9011	V.DOLORES	2239 4	CS	351	
	5 44 20.1103	3	8 29 9.24	-69 9 3.5	4	9007	AREQUIPA	2694 10	AY	149	
	5 44 42.7931	1	7 11 19.46	-18 58 37.6	4	9011	V.DOLORES	2241 17	CS	150	
	12 6 17.4839	1	13 10 44.17	18 54 6.6	4	9001	ORGAN PASS	2636 9	AY	1	
1 8	15 33 21.4552	3	8 11 38.20	-34 3 21.6	4	9003	WOOMERA	4221 9	AY	13	
	16 2 14.2918	1	9 55 9.84	55 2 44.8	4	9012	MAUI	2948 19	YK	151	
	21 22 50.1260	1	10 27 44.25	-67 31 27.3	4	9002	OLFANTSFTN	2692 6	NL	745	
	21 24 38.1682	1	11 0 1.02	-51 34 24.9	4	9002	OLFANTSFTN	2692 17	NL	744	
	1 9 1.52 33.0235	10	11 19 44.76	33 20 53.8	4	9008	SHIRAZ	2366 5	TM	6890	
1 9	13 0 49.6077	3	5 11 31.91	-85 39 23.7	4	9003	WOOMERA	4227 18	YK	7	
	13 35 9.5038	1	14 2 53.33	11 7 47.5	4	9012	MAUI	2951 11	BW	152	
	15 6 50.5344	3	6 17 42.43	-51 7 27.5	4	9003	WOOMERA	4228 4	PG	14	
	15 8 40.2861	3	8 9 39.06	-37 36 46.4	4	9003	WOOMERA	4228 18	PG	15	
	1 28 0.9271	10	11 25 0.33	30 51 15.9	4	9008	SHIRAZ	2376 10	BW	352	
1 10	1 29 25.4992	10	12 46 34.45	44 33 8.6	4	9008	SHIRAZ	2376 35	BW	353	
	9 16 42.9556	3	8 53 32.71	52 14 38.4	4	9009	CURACAO	2297 4	YN	153	
	11 17 12.0940	1	13 5 55.79	12 19 19.7	4	9001	ORGAN PASS	2657 7	BW	2	
	13 22 10.0970	1	11 17 54.24	67 2 38.1	4	9001	ORGAN PASS	2659 21	BW	3	
	15 12 48.8656	30	9 59 41.56	50 30 34.5	4	9012	MAUI	2962 7	LW	154	
1 10	4 30 42.1349	3	6 55 25.37	-30 57 50.1	4	9011	V.DOLORES	2246 5	CS	155	
	5 1 18.3780	1	12 45 3.90	18 11 24.7	4	9004	S.FERNANDO	2839 11	BW	156	
	10 56 45.6390	1	9 20 9.79	55 7 7.5	4	9010	JUPITER	2291 6	LE	157	
	14 49 40.6453	1	11 34 40.69	62 4 59.8	4	9012	MAUI	2971 13	BW	354	
	20 8 19.2940	1	10 16 55.26	-71 7 50.7	4	9002	OLFANTSFTN	2706 13	CS	746	
1 11	20 50 6.3128	10	10 43 49.66	54 59 27.6	4	9005	TOKYO	2244 4	GN	158	
	20 50 14.3136	10	10 50 44.96	56 25 53.1	4	9005	TOKYO	2244 5	LE	159	
	2 0 19.9692	3	8 33 26.60	-73 27 32.7	4	9011	V.DOLORES	2249 16	LE	16	
	11 47 24.0451	3	8 54 1.82	-82 0 35.9	4	9003	WOOMERA	4231 9	CS	17	
	21 47 30.8084	1	5 35 43.71	-55 55 26.3	4	9002	OLFANTSFTN	2713 7	YN	747	
1 11	11 22 40.2005	1	8 54 12.84	-82 5 38.0	4	9003	WOOMERA	4238 9	YN	18	
	13 27 44.0884	3	5 30 59.96	-65 13 12.8	4	9003	WOOMERA	4242 3	BB	19	
	13 29 32.5892	3	7 47 6.44	-52 11 23.6	4	9003	WOOMERA	4242 11	BB	20	
	13 31 1.2222	1	8 46 36.46	-37 45 46.7	4	9003	WOOMERA	4242 22	BB	21	
	16 3 52.8125	1	7 25 24.92	61 45 15.6	4	9012	MAUI	2987 3	AY	160	

Satellite 1960 12

DATE Y M D	TIME (A-1) H M S	RMS MS	R.A.(1950.0) H M S			DEC.(1950.0) D M S			STATION	FRAME NO.	MS	OBS.NO.
			D	M	S	D	M	S				
1961 1 13	16 5 19.5193	1	7 11 17.76	72 53 33.0	4	9012 MAUI	2987 19	AY			161	
1 13	20 1 0.8441	10	10 50 4.49	53 37 11.5	4	9005 TOKYO	2253 10	GN			355	
1 13	20 1 4.8441	10	10 54 11.82	54 18 38.3	4	9005 TOKYO	2253 11	GN			356	
1 14	1 55 3.8703	10	9 8 38.03	65 58 7.2	4	9008 SHIRAZ	2381 16	LE			357	
1 14	11 43 9.4963	1	10 56 55.47	55 7 49.8	4	9001 ORGAN PASS	2694 3	BW			4	
1 14	15 39 33.5314	1	7 17 34.53	64 33 52.5	4	9012 MAUI	2992 17	LE			163	
1 14	19 36 40.3314	1	11 8 20.95	54 28 13.1	4	9005 TOKYO	2266 4	BB			164	
1 15	1 30 15.9123	10	9 5 4.36	63 48 16.0	4	9008 SHIRAZ	2386 9	LE			358	
1 15	11 19 20.1346	1	12 4 26.39	59 3 5.9	4	9001 ORGAN PASS	2704 10	SY			6	
1 15	12 39 47.4142	1	7 27 48.98	-59 16 9.1	4	9003 WOOMERA	4249 12	BB			23	
1 15	12 41 13.1204	1	8 26 51.97	-45 31 22.8	4	9003 WOOMERA	4249 25	BB			24	
1 15	14 39 43.6320	3	2 41 42.99	-29 48 15.1	4	9003 WOOMERA	4252 4	YN			25	
1 15	14 42 35.5582	3	4 20 13.73	-20 8 34.0	4	9003 WOOMERA	4252 20	YN			26	
1 15	19 13 26.6550	10	13 16 16.42	61 24 8.3	4	9005 TOKYO	2276 14	GN			359	
1 16	1 5 38.4839	10	9 8 40.21	63 15 39.1	4	9008 SHIRAZ	2396 11	YN			360	
1 16	1 7 13.2956	10	11 30 53.21	77 28 17.6	4	9008 SHIRAZ	2396 23	YN			361	
1 16	11 1 43.4353	1	1 42 24.60	86 27 22.1	4	9010 JUPITER	2319 8	BB			165	
1 16	12 13 13.5668	3	4 35 46.70	-73 38 33.5	4	9003 WOOMERA	4255 6	GN			27	
1 16	12 15 4.1765	3	7 27 7.59	-60 56 51.0	4	9003 WOOMERA	4255 15	GN			28	
1 16	12 17 4.8421	3	8 37 1.84	-41 41 14.7	4	9003 WOOMERA	4255 24	GN			29	
1 16	12 59 37.3458	1	8 46 25.54	80 3 53.1	4	9001 ORGAN PASS	2718 16	SY			30	
1 16	14 16 47.8301	1	3 23 47.45	-28 26 18.4	4	9003 WOOMERA	4259 5	PG			31	
1 16	14 19 12.4456	1	4 59 28.21	-16 10 27.2	4	9003 WOOMERA	4259 25	PG			32	
1 16	20 52 31.4848	3	9 38 36.73	74 21 55.5	4	9005 TOKYO	2293 7	HY			362	
1 17	2 4 0.9090	3	7 44 58.87	-37 13 2.2	4	9011 V.DOLORES	2254 18	BB			166	
1 17	11 49 59.2540	3	7 6 8.73	-65 38 11.1	4	9003 WOOMERA	4263 8	PG			33	
1 17	11 52 19.6685	3	8 29 58.83	-43 33 34.4	4	9003 WOOMERA	4263 25	PG			34	
1 17	13 54 3.5150	3	4 30 17.76	-23 3 36.9	4	9003 WOOMERA	4265 10	PG			35	
1 17	20 28 47.0869	10	11 46 52.77	82 19 30.4	4	9005 TOKYO	2301 10	SY			435	
1 18	11 24 22.0938	3	5 52 51.74	-74 7 27.3	4	9003 WOOMERA	4267 14	GN			36	
1 18	11 26 52.8514	3	8 7 22.34	-51 40 21.5	4	9003 WOOMERA	4267 25	GN			37	
1 18	20 2 59.5369	30	9 12 17.88	71 31 57.2	4	9005 TOKYO	2311 4	YK			318	
1 18	20 3 39.6510	30	10 12 54.10	78 6 43.0	4	9005 TOKYO	2311 11	YK			318	
1 19	1 11 23.7989	3	4 14 52.02	-68 1 52.0	4	9011 V.DOLORES	2261 12	YN			167	
1 19	1 13 33.6646	3	6 58 21.87	-51 47 16.4	4	9011 V.DOLORES	2261 19	YN			168	
1 19	1 15 52.7449	3	8 9 26.61	-29 45 24.8	4	9011 V.DOLORES	2261 33	YN			169	
1 19	1 18 7.2900	3	8 46 44.25	-12 43 47.3	4	9011 V.DOLORES	2261 40	YN			170	
1 19	3 14 18.9049	1	2 46 42.35	-23 28 17.2	4	9011 V.DOLORES	2263 5	PG			319	
1 19	3 17 17.8668	1	4 32 20.16	-7 59 30.7	4	9011 V.DOLORES	2263 11	PG			320	
1 19	10 59 43.8558	1	6 5 44.21	-74 44 8.9	4	9003 WOOMERA	4272 18	GN			39	
1 19	13 6 20.1068	3	5 29 8.56	-19 13 12.0	4	9003 WOOMERA	4276 6	LE			40	
1 19	19 38 16.3772	10	9 3 32.51	70 28 15.3	4	9005 TOKYO	2321 6	BW			894	
1 19	19 39 42.8429	10	12 55 32.97	81 48 49.9	4	9005 TOKYO	2321 17	BW			895	
1 20	2 53 13.2441	3	4 45 40.77	-7 11 57.9	4	9011 V.DOLORES	2263 6	BB			171	
1 20	12 41 35.4036	3	5 22 12.68	-23 42 59.0	4	9003 WOOMERA	4280 18	CS			41	

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DATE Y M D	TIME (A-1)			RMS MS			R.A.(1950.0) H M S			DECL.(1950.0) D M S			STATION			FRAME NO.			MS			OBS. NO.					
	H	M	S	H	M	S	H	M	S	D	M	S	WOMERA	TOKYO	TOKYO	JUPITER	TOKYO	TOKYO	WOMERA	TOKYO	TOKYO	JUPITER	TOKYO	TOKYO	WOMERA	TOKYO	TOKYO
1961 1 20	18	31	17.1459	1	7	31	0.65	-64	8	54.3	4	9002	OLFANTSFTN	2727	7	BW	748										
	20	36	31.9916	10	4	58	8.02	-14	19	26.3	4	9002	OLFANTSFTN	2728	10	BW	749										
	21	12	16.8.7100	3	4	40	45.02	-33	51	24.8	4	9003	WOMERA	4285	13	CS	42										
	21	18	6.10.2614	10	7	17	55.49	-68	27	29.3	4	9002	OLFANTSFTN	2729	8	BW	750										
	21	18	51.6.3824	10	15	20	49.04	77	42	14.4	4	9005	TOKYO	2334	4	BB	172										
	21	20	12.13.1965	1	5	9	2.04	-15	26	29.0	4	9002	OLFANTSFTN	2731	7	BW	751										
	22	10	37.51.2051	1	4	22	38.43	81	1	58.4	4	9010	JUPITER	2366	18	CS	43										
	22	10	39.41.5272	1	21	58	18.66	79	34	36.9	4	9010	JUPITER	2366	26	CS	44										
	22	11	53.37.8047	3	6	14	45.62	-18	31	55.3	4	9003	WOMERA	4292	18	YN	45										
	22	13	55.0.9417	3	3	28	19.02	5	45	40.5	4	9003	WOMERA	4294	21	BW	46										
	22	19	47.57.6485	1	5	23	57.53	-15	53	45.6	4	9002	OLFANTSFTN	2734	14	BW	1128										
	22	20	29.48.9433	10	9	51	50.98	79	58	51.7	4	9005	TOKYO	2348	3	GN	173										
	22	20	31.19.0220	3	17	17	49.76	79	46	41.6	4	9005	TOKYO	2348	15	GN	174										
	23	6	21.25.2016	1	14	30	53.16	81	6	57.1	4	9004	S.FERNANDO	2877	6	AY	175										
	23	6	22.38.9529	1	17	50	34.83	71	22	10.3	4	9004	S.FERNANDO	2877	23	AY	176										
	23	10	14.13.8596	1	23	52	27.67	83	24	44.1	4	9010	JUPITER	2377	16	CS	177										
	23	11	27.25.8736	1	5	8	41.43	-36	1	2.5	4	9003	WOMERA	4298	23	KI	339										
	23	13	32.0.0533	3	3	56	52.59	13	16	8.5	4	9003	WOMERA	4301	18	AY	47										
	23	20	5.13.4431	10	9	41	27.90	80	52	58.6	4	9005	TOKYO	2360	3	VD	178										
	23	20	6.47.9112	10	17	27	58.60	78	38	55.0	4	9005	TOKYO	2360	19	VD	179										
	23	10	14.13.8596	1	23	52	27.67	83	24	44.1	4	9010	JUPITER	2385	6	BB	180										
	23	11	27.25.8736	1	5	8	41.43	-40	56	42.1	4	9003	WOMERA	4305	16	TM	48										
	23	13	32.0.0533	3	3	56	52.59	-34	53	4.7	4	9002	OLFANTSFTN	2743	10	SY	752										
	23	20	5.13.4431	10	8	8	4.83	76	18	53.2	4	9005	TOKYO	2368	7	YN	181										
	23	20	6.47.9112	10	9	2	43.64	81	6	30.9	4	9005	TOKYO	2368	11	YN	182										
	24	9	48.24.7624	1	3	38	7.59	81	52	7.6	4	9010	JUPITER	2385	6	BB	180										
	24	11	2.34.5010	3	4	58	23.97	-40	56	42.1	4	9003	WOMERA	4305	16	TM	48										
	24	18	33.11.2429	1	4	49	18.18	-34	53	4.7	4	9002	OLFANTSFTN	2743	10	SY	752										
	25	19	15.22.1160	10	16	28	34.90	77	5	13.4	4	9004	S.FERNANDO	2887	18	BW	185										
	25	19	15.52.9280	3	16	51	33.30	76	41	27.2	4	9005	TOKYO	2382	6	LE	186										
	25	18	28.21.8315	10	17	8	26.66	74	6	16.5	4	9005	TOKYO	2382	8	LE	187										
	26	5	16.7635	1	13	3	24.66	82	52	8.8	4	9004	S.FERNANDO	2881	9	BW	183										
	27	2	22.3620	3	2	4	48.68	-0	32	27.5	4	9011	V.DOLORES	2279	6	AY	184										
	27	4	32.6770	1	16	28	34.90	77	5	13.4	4	9004	S.FERNANDO	2887	18	BW	185										
	27	18	28.21.8315	10	16	51	33.30	76	41	27.2	4	9005	TOKYO	2382	6	LE	186										
	27	18	28.37.8391	10	17	8	26.66	74	6	16.5	4	9005	TOKYO	2382	8	LE	187										
	28	1	36.38.5600	1	1	23	41.04	-7	42	38.3	4	9011	V.DOLORES	2281	10	BW	363										
	28	1	39.53.9876	1	2	46	19.97	9	19	46.1	4	9011	V.DOLORES	2281	20	BW	364										
	28	2	28.36.7460	10	17	50	11.83	69	52	18.4	4	9008	SHIRAZ	2442	13	AY	188										
	28	2	31.43.3326	10	19	2	44.15	38	5	13.2	4	9008	SHIRAZ	2442	22	AY	189										
	28	4	18.27.0032	1	15	8	17.39	80	50	52.5	4	9004	S.FERNANDO	2893	9	BW	190										
	28	10	19.27.7110	1	19	26	15.78	57	24	27.8	4	9010	JUPITER	2416	24	SY	49										
	29	2	4.23.6256	10	18	8	54.21	65	54	34.4	4	9008	SHIRAZ	2449	15	AY	192										
	29	11	2.57.5205	30	2	25	48.50	-8	45	42.9	4	9003	WOMERA	4322	8	BW	50										
	29	11	50.45.9359	1	17	22	32.79	77	11	36.0	4	9001	ORGAN PASS	2740	16	LE	51										
	29	15	53.3.2152	1	19	39	47.74	53	14	7.7	4	9012	MAUI	3053	11	GN	52										
	29	18	59.7.4050	1	2	51	11.55	7	34	7.4	4	9002	OLFANTSFTN	2753	8	TM	753										
	29	0	48.47.5383	3	1	32	59.31	-5	24	32.2	4	9011	V.DOLORES	2290	20	PG	53										
	30	0	50.50.7143	3	2	32	31.17	6	43	60.0	4	9011	V.DOLORES	2290	33	PG	54										
	31	18	9.42.6097	10	2	33	14.35	1	24	38.6	4	9002	OLFANTSFTN	2757	9	LE	754										
	31	18	54.9.4110	3	14	50	36.89	74	43	7.9	4	9005	TOKYO	2392	11	LE	193										

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DATE Y M D	TIME (A-1)			R.A. (1950.0)			DEC.L. (1950.0)			STATION			FRAME NO.	MS	OBS. NO.		
	H	M	S	H	M	S	D	M	S	TOKYO	SHIRAZ	JUPITER	TOKYO	OLFANTSFTN	ORGAN PASS		
1961 1 31	18 54 14.2072	3	15 1 15.73	74 4 11.6	4	9005	TOKYO	2392	12	LE	194						
2 1	0 49 9.9436	30	17 31 9.58	79 7 34.0	4	9008	SHIRAZ	2465	3	GN	55						
2 1	0 49 38.2126	30	17 45 57.82	74 32 55.2	4	9008	SHIRAZ	2465	7	GN	56						
2 1	10 43 41.6380	30	16 12 44.71	69 43 23.2	4	9010	JUPITER	2435	16	AY	57						
2 1	10 45 19.8750	30	17 31 20.81	52 45 50.4	4	9010	JUPITER	2435	25	AY	58						
2 1	12 41 48.0800	1	14 28 24.25	55 35 58.2	4	9001	ORGAN PASS	2750	3	GN	197						
2 1	12 43 35.6118	1	16 19 15.93	37 32 16.1	4	9001	ORGAN PASS	2750	15	GN	198						
2 1	17 45 5.9075	1	2 28 25.37	- 1 22 3.2	4	9002	OLFANTSFTN	2762	11	GN	755						
2 1	17 45 9.9152	1	2 30 42.19	- 0 50 56.4	4	9002	OLFANTSFTN	2762	12	GN	756						
2 2	10 20 14.2166	10	17 17 26.39	58 37 31.4	4	9010	JUPITER	2442	20	AY	195						
2 2	10 21 26.5691	10	17 46 25.54	45 51 57.8	4	9010	JUPITER	2442	30	AY	196						
2 2	18 6 20.0804	30	16 27 59.47	61 22 37.1	4	9005	TOKYO	2410	6	PG	365						
2 2	18 7 12.7820	10	16 51 31.91	52 32 22.8	4	9005	TOKYO	2410	13	PG	366						
2 3	2 6 25.1984	30	15 31 54.41	40 17 36.2	4	9008	SHIRAZ	2472	3	GN	59						
2 3	2 6 44.1156	30	15 47 54.02	36 48 37.8	4	9008	SHIRAZ	2472	10	GN	60						
2 3	6 0 48.3754	1	13 41 3.76	27 23 3.8	4	9004	S.FERNANDO	2901	7	NL	61						
2 3	6 1 31.3814	1	14 20 18.52	21 20 14.7	4	9004	S.FERNANDO	2901	17	NL	62						
2 3	11 4 40.5660	3	1 35 30.11	18 8 58.9	4	9003	WOMERA	4341	12	BW	199						
2 3	19 45 29.8036	10	13 46 3.41	41 26 50.0	4	9005	TOKYO	2426	7	HY	367						
2 3	19 45 41.8287	10	13 59 29.59	39 46 11.3	4	9005	TOKYO	2426	10	HY	368						
2 4	1 40 54.6294	10	14 39 46.13	52 25 58.4	4	9008	SHIRAZ	2481	28	BB	322						
2 4	1 41 27.5843	10	15 15 6.52	46 59 3.4	4	9008	SHIRAZ	2481	33	BB	323						
2 4	15 30 5.2034	1	17 35 27.65	44 3 25.4	4	9012	MAUI	3082	5	AY	201						
2 5	0 39 4.1923	1	6 13 9.15	8 47 59.2	4	9009	CURACAO	2306	9	AY	202						
2 5	0 40 25.6585	10	7 52 55.24	-16 47 15.2	4	9010	JUPITER	2446	17	AY	203						
2 5	0 40 35.5669	1	7 8 25.88	22 10 13.5	4	9009	CURACAO	2306	16	AY	204						
2 5	0 40 41.6565	10	7 58 29.11	-15 16 45.4	4	9010	JUPITER	2446	19	AY	205						
2 5	1 17 0.2646	30	15 26 50.27	47 49 21.3	4	9008	SHIRAZ	2491	12	BB	206						
2 5	15 3 6.3832	1	16 25 16.04	68 26 54.6	4	9012	MAUI	3086	7	SY	324						
2 5	15 4 5.4772	1	17 2 21.82	58 59 51.7	4	9012	MAUI	3086	14	SY	325						
2 5	16 23 19.6832	10	5 56 15.73	-30 48 22.3	4	9008	SHIRAZ	2494	5	VD	207						
2 5	16 25 45.9270	10	7 2 54.67	-16 46 44.8	4	9008	SHIRAZ	2494	12	VD	208						
2 6	0 13 49.5609	1	5 53 27.10	- 1 2 8.5	4	9009	CURACAO	2310	7	YN	326						
2 6	0 13 53.5680	1	5 55 44.02	- 0 23 28.7	4	9009	CURACAO	2310	8	YN	327						
2 6	0 14 6.1698	10	7 7 56.66	-27 16 51.4	4	9010	JUPITER	2451	7	SY	340						
2 6	0 51 46.7965	10	14 55 15.74	56 22 56.8	4	9008	SHIRAZ	2499	13	VD	209						
2 6	0 52 37.8187	10	15 40 35.59	47 15 22.5	4	9008	SHIRAZ	2499	22	VD	210						
2 6	10 46 3.9380	3	13 55 47.72	28 23 32.1	4	9010	JUPITER	2457	9	AY	211						
2 6	10 46 48.1727	3	14 33 8.12	20 51 58.5	4	9010	JUPITER	2457	21	AY	212						
2 6	14 39 7.7739	1	16 55 56.22	62 38 8.7	4	9012	MAUI	3094	4	AY	213						
2 6	14 40 32.4563	1	17 24 40.04	48 48 55.0	4	9012	MAUI	3094	26	AY	214						
2 6	19 57 28.5399	1	6 37 41.59	-25 52 19.0	4	9004	S.FERNANDO	2920	6	AY	65						
2 6	19 59 3.3341	1	7 16 17.12	-18 5 4.0	4	9004	S.FERNANDO	2920	16	AY	66						
2 7	2 31 11.6664	10	12 31 38.75	4 29 0.6	4	9008	SHIRAZ	2509	9	SY	215						
2 7	2 31 15.6668	10	12 34 7.11	3 59 3.5	4	9008	SHIRAZ	2509	10	SY	216						

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DATE Y M D	TIME H M S	R.A.(1950.0)			DECL.(1950.0)			RMS S	STATION	FRAME NO.	MS	OBS.NO.
		H	M	S	D	H	M					
1961 2 7	5 45 32.0113	1	6 29 37.86	- 9 36 32.0	4	9012 MAUI	3098 4	AY	217			
2 7	5 47 2.9963	1	7 15 33.68	2 16 34.2	4	9012 MAUI	3098 15	YK	218			
2 7	9 45 10.7638	10	7 44 27.71	-13 50 56.4	4	9005 TOKYO	2440 8	SD	436			
2 7	14 14 31.5465	1	16 58 25.07	62 32 0.8	4	9012 MAUI	3104 8	PG	328			
2 7	14 14 35.5465	1	16 59 45.40	61 54 21.8	4	9012 MAUI	3104 10	PG	329			
2 7	19 34 29.1203	1	7 7 13.42	-19 0 23.6	4	9004 S.FERNANDO	2925 5	AY	67			
2 7	19 36 22.5741	1	7 52 1.43	-9 32 24.9	4	9004 S.FERNANDO	2925 27	AY	68			
2 7	20 10 45.7782	10	12 1 7.99	4 25 8.2	4	9005 TOKYO	2453 4	HY	1119			
2 7	20 11 59.1788	10	12 46 43.76	-3 52 37.8	4	9005 TOKYO	2453 17	HY	1118			
2 7	23 27 48.5721	1	17 28 14.77	17 39 48.2	4	9009 CURACAO	2322 24	GN	219			
2 7	23 27 52.5853	1	7 30 3.76	18 4 4.2	4	9009 CURACAO	2322 25	GN	220			
2 8	5 21 44.0620	10	6 48 57.27	-5 42 40.9	4	9012 MAUI	3111 4	PG	221			
2 8	5 22 8.4803	10	7 0 24.75	-2 39 56.4	4	9012 MAUI	3111 8	PG	222			
2 8	13 51 13.6361	1	17 14 25.30	50 20 12.4	4	9012 MAUI	3117 8	NL	223			
2 8	13 51 59.0720	1	17 21 43.24	43 33 59.5	4	9012 MAUI	3117 21	NL	224			
2 8	15 55 54.1203	1	14 18 23.05	8 11 32.8	4	9012 MAUI	3121 15	YK	225			
2 8	15 56 16.6393	1	14 34 12.01	4 8 31.6	4	9012 MAUI	3121 21	YK	226			
2 8	19 10 11.4584	1	17 3 51.66	-18 30 22.9	4	9004 S.FERNANDO	2932 4	PG	69			
2 8	19 11 7.4521	1	7 24 51.42	-13 57 10.1	4	9004 S.FERNANDO	2932 11	PG	70			
2 8	19 12 10.0194	1	7 48 19.79	-8 55 48.8	4	9004 S.FERNANDO	2932 17	PG	71			
2 8	19 46 19.8678	10	11 57 4.10	6 14 50.2	4	9005 TOKYO	2467 5	SD	437			
2 8	19 47 40.6492	10	12 49 42.79	-3 14 14.3	4	9005 TOKYO	2467 18	SD	438			
2 9	1 5 1.9156	1	2 55 1.63	46 35 50.3	4	9009 CURACAO	2330 19	GN	227			
2 9	3 6 20.0207	3	7 8 46.56	12 51 39.1	4	9001 ORGAN PASS	2781 8	GN	72			
2 9	3 6 24.0217	3	7 11 29.29	13 19 29.2	4	9001 ORGAN PASS	2781 9	GN	73			
2 9	5 37 13.3369	1	12 4 3.20	-2 23 7.6	4	9004 S.FERNANDO	2940 5	AY	74			
2 9	5 38 20.1599	1	12 42 49.86	-9 41 8.2	4	9004 S.FERNANDO	2940 20	AY	75			
2 9	6 59 59.1773	1	3 18 36.99	31 12 51.6	4	9012 MAUI	3126 3	VD	228			
2 9	7 1 33.1358	1	4 9 14.61	47 2 2.8	4	9012 MAUI	3126 14	VD	229			
2 9	9 32 45.9747	3	14 28 43.69	34 49 22.9	4	9010 JUPITER	2472 10	VD	230			
2 9	9 38 53.2387	1	16 8 9.57	28 24 16.4	4	9009 CURACAO	2334 10	AY	231			
2 9	9 39 44.0394	1	16 35 17.74	18 41 9.1	4	9009 CURACAO	2334 17	AY	232			
2 9	10 58 33.4256	10	6 10 34.66	5 59 10.2	4	9005 TOKYO	2474 8	P1	1117			
2 9	13 28 51.8262	1	17 24 20.12	32 3 16.5	4	9012 MAUI	3128 7	GN	76			
2 9	13 29 3.8288	1	17 25 41.81	30 33 25.7	4	9012 MAUI	3128 10	GN	77			
2 9	15 29 32.8860	1	12 57 27.92	30 32 45.0	4	9012 MAUI	3131 23	YN	233			
2 9	15 33 3.9504	1	15 29 12.72	-5 53 42.9	4	9012 MAUI	3131 43	YN	234			
2 9	16 52 31.0440	10	5 40 46.07	27 10 14.4	4	9008 SHIRAZ	2524 25	LE	78			
2 9	19 21 57.6249	10	11 56 54.83	7 47 4.7	4	9005 TOKYO	2481 6	FI	1148			
2 9	19 22 25.7296	10	12 16 24.63	4 24 59.0	4	9005 TOKYO	2481 9	FI	1147			
2 9	20 49 15.8987	1	5 58 33.90	9 43 14.0	4	9004 S.FERNANDO	2944 5	PG	235			
2 9	20 49 43.8975	1	6 17 52.23	13 12 59.9	4	9004 S.FERNANDO	2944 12	PG	236			
2 10	0 34 27.8758	1	1 9 36.24	-2 57 18.7	4	9009 CURACAO	2337 10	LE	237			
2 10	0 43 36.9014	3	7 50 2.99	23 12 28.0	4	9010 JUPITER	2479 13	BB	330			
2 10	0 44 54.8801	3	8 37 45.08	28 54 24.8	4	9010 JUPITER	2479 22	BB	331			

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DATE Y M D	TIME (A-1) H M S	R.A.(1950.0)			DEC.(1950.0)			STATION D M S	FRAME NO.	MS	OBS.NO.
		H	M	S	D	M	S				
1961 2 10	1 19 4.9722	3	13 22 2.75	0 51 51.6	4	9008 SHIRAZ	2533 16	GN	79		
2 10	1 19 6.9665	3	13 23 24.52	0 34 5.5	4	9008 SHIRAZ	2533 17	GN	80		
2 10	2 42 14.3797	3	2 30 56.89	22 51 45.9	4	9010 JUPITER	2484 12	TM	238		
2 10	2 43 55.6489	3	2 54 53.71	36 57 36.5	4	9010 JUPITER	2484 21	TM	239		
2 10	5 12 52.6299	1	12 3 27.28	- 1 30 38.8	4	9004 S.FERNANDO	2948 6	PG	240		
2 10	5 13 43.3059	1	12 34 14.68	- 7 13 51.6	4	9004 S.FERNANDO	2948 16	PG	241		
2 10	6 36 20.4721	1	1 3 52 0.80	39 13 12.5	4	9012 MAUI	3138 17	YN	81		
2 10	6 36 47.2426	1	4 9 32.53	43 41 8.0	4	9012 MAUI	3138 26	YN	82		
2 10	9 10 13.2089	3	15 43 14.29	15 32 1.4	4	9010 JUPITER	2487 25	YN	83		
2 10	10 34 41.4070	10	6 34 50.23	8 29 33.4	4	9005 TOKYO	2491 9	HY	439		
2 10	10 35 52.6016	10	7 23 50.77	16 17 40.6	4	9005 TOKYO	2491 17	HY	440		
2 10	16 24 17.4869	10	3 35 46.37	- 6 20 22.0	4	9008 SHIRAZ	2540 2	GN	86		
2 10	16 27 1.1732	10	5 3 14.92	15 43 47.8	4	9008 SHIRAZ	2540 8	GN	87		
2 10	16 28 25.2199	10	6 5 39.06	28 5 5.8	4	9008 SHIRAZ	2540 19	GN	88		
2 10	20 25 24.1865	1	6 24 55.52	12 19 14.9	4	9004 S.FERNANDO	2953 6	PG	242		
2 10	20 26 18.8070	1	7 4 52.69	18 30 20.3	4	9004 S.FERNANDO	2953 18	PG	243		
2 11	0 13 11.7835	1	1 57 15.26	19 51 6.2	4	9009 CURACAO	2346 6	GN	244		
2 11	0 14 15.5229	1	2 20 20.96	29 52 8.0	4	9009 CURACAO	2346 10	GN	245		
2 11	0 53 48.3010	10	12 50 20.89	10 46 34.0	4	9008 SHIRAZ	2539 9	YN	246		
2 11	0 55 32.9813	10	14 1 53.06	- 4 55 8.3	4	9008 SHIRAZ	2539 37	YN	247		
2 11	8 49 40.5527	1	16 13 31.37	33 27 41.0	4	9009 CURACAO	2349 17	YN	248		
2 11	8 49 52.5306	1	16 19 1.13	31 17 17.3	4	9009 CURACAO	2349 20	YN	249		
2 11	20 0 30.1022	1	6 7 23.25	7 25 29.2	4	9004 S.FERNANDO	2962 4	PG	250		
2 11	20 1 47.8651	1	7 1 6.09	16 1 57.0	4	9004 S.FERNANDO	2962 22	PG	251		
2 12	0 31 12.9129	10	14 10 13.59	- 3 43 53.4	4	9008 SHIRAZ	2550 9	AY	252		
2 12	0 32 43.4516	10	14 57 28.44	-14 45 57.3	4	9008 SHIRAZ	2550 21	AY	253		
2 12	0 33 49.7487	10	15 26 7.76	-21 0 1.0	4	9008 SHIRAZ	2550 26	AY	254		
2 12	1 57 49.7889	3	4 55 47.84	64 48 40.5	4	9010 JUPITER	2500 19	YK	255		
2 12	1 57 53.7888	3	5 0 51.74	65 19 20.0	4	9010 JUPITER	2500 20	YK	256		
2 12	9 45 29.4677	3	6 21 58.23	3 16 29.1	4	9005 TOKYO	2509 9	GN	369		
2 12	9 46 9.4255	10	6 46 26.13	7 31 14.0	4	9005 TOKYO	2509 16	GN	370		
2 12	10 23 32.1089	3	12 18 34.77	-14 5 50.4	4	9010 JUPITER	2503 14	YK	257		
2 12	10 23 40.1098	3	12 22 48.21	-15 6 14.5	4	9010 JUPITER	2503 16	YK	258		
2 12	11 48 36.0085	10	3 56 35.79	38 17 24.3	4	9005 TOKYO	2513 3	GN	371		
2 12	11 48 56.8758	10	4 9 11.15	41 38 3.6	4	9005 TOKYO	2513 5	GN	372		
2 12	15 35 1.7494	10	3 31 2.08	-11 56 1.9	4	9008 SHIRAZ	2555 5	GN	259		
2 12	15 37 0.8551	10	4 33 25.97	2 38 0.2	4	9008 SHIRAZ	2555 14	GN	260		
2 12	15 38 21.8385	10	5 25 39.05	13 59 55.8	4	9008 SHIRAZ	2555 30	GN	261		
2 12	17 41 19.7780	10	2 25 29.63	39 36 48.6	4	9008 SHIRAZ	2559 23	LE	262		
2 12	17 41 27.7785	10	2 27 24.68	40 46 31.4	4	9008 SHIRAZ	2559 25	LE	263		
2 12	19 36 4.9562	1	6 8 38.88	6 1 17.4	4	9004 S.FERNANDO	2966 6	FL	332		
2 12	19 37 43.7373	1	7 14 20.22	16 13 25.6	4	9004 S.FERNANDO	2966 14	FL	333		
2 12	24 44.2501	1	2 15 46.65	22 57 44.2	4	9009 CURACAO	2360 3	GN	264		
2 12	24 47.7629	1	3 34 40.34	45 15 19.8	4	9009 CURACAO	2360 16	GN	265		
2 13	1 28 39.6542	3	2 17 5.30	20 38 6.2	4	9010 JUPITER	2512 11	YK	266		

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DATE Y M D	TIME (A-1) H M S	RMS H M S	R.A.(1950.0) H M S	DECL.(1950.0) D M S	STATION	FRAME NO.	MS	OBS. NO.
1961	2 13	1 31 43.8167	3 40 10.00	50 6 58.6	9010 JUPITER	2512 25	YK	267
	2 13	1 34 12.2375	3 38 5.94	68 30 44.3	9010 JUPITER	2512 41	YK	268
	2 13	3 26 56.2252	1 23 40.84	7 40 35.7	9001 ORGAN PASS	2819 4	SY	89
	2 13	3 32 0.3974	1 5 1 25.72	51 50 11.1	9001 ORGAN PASS	2819 21	SY	90
	2 13	8 0 38.3732	1 16 16 58.49	35 2 4.0	9009 CURACAO	2364 10	AY	269
	2 13	8 1 15.0071	1 16 29 0.81	28 58 12.6	9009 CURACAO	2364 15	BW	270
	2 13	9 20 48.0137	3 6 11 18.67	0 19 50.1	9005 TOKYO	2521 13	GN	373
	2 13	9 21 0.0171	3 6 18 12.28	1 35 28.8	9005 TOKYO	2521 16	GN	374
	2 13	10 5 40.9623	1 13 17 39.79	-27 0 45.2	9009 CURACAO	2368 3	VD	271
	2 13	10 6 17.4952	1 13 37 49.19	-32 18 53.6	9009 CURACAO	2368 9	VD	272
	2 14	1 2 8.0897	3 1 40 46.35	4 32 58.5	9010 JUPITER	2524 4	AY	273
	2 14	1 3 21.8452	3 2 0 23.01	13 15 44.8	9010 JUPITER	2524 12	AY	274
	2 14	1 4 48.3228	3 2 29 25.47	25 38 54.5	9010 JUPITER	2524 21	AY	275
	2 14	1 6 8.0690	3 3 6 30.60	38 44 53.5	9010 JUPITER	2524 31	YK	276
	2 14	3 2 2.9077	1 2 12 28.96	3 59 0.1	9001 ORGAN PASS	2825 9	BW	91
	2 14	3 7 24.0513	1 5 5 8.27	49 37 57.0	9001 ORGAN PASS	2825 36	BW	92
	2 14	16 55 21.1933	10 4 20 17.75	69 3 24.5	9008 SHIRAZ	2573 6	AY	277
	2 14	16 57 33.7319	10 9 21 16.24	75 14 16.3	9008 SHIRAZ	2573 26	AY	278
	2 14	0 42 28.4920	3 3 49 6.57	46 24 1.0	9010 JUPITER	2533 2	AY	93
	2 15	0 43 44.5956	3 5 4 57.38	56 57 37.9	9010 JUPITER	2533 15	AY	94
	2 15	2 42 22.7846	1 4 43 6.802	43 38 37.95	9001 ORGAN PASS	2830 10	SD	8239
	2 15	2 46 2.4746	3 1 27 4.13	52 12 48.9	9010 JUPITER	2534 3	SY	95
	2 15	2 48 8.6118	3 1 31 10.56	68 43 21.9	9010 JUPITER	2534 21	SY	96
	2 15	16 28 33.8928	10 2 37 59.17	47 58 4.9	9008 SHIRAZ	2578 3	AY	97
	2 15	16 30 25.9920	10 4 7 14.76	65 37 59.2	9008 SHIRAZ	2578 14	AY	98
	2 16	0 14 59.9731	3 2 12 5.96	16 11 34.0	9010 JUPITER	2540 7	AY	334
	2 16	0 17 2.0638	3 3 16 36.37	36 2 17.4	9010 JUPITER	2540 21	AY	335
	2 16	0 19 8.1915	3 5 11 0.37	54 10 59.4	9010 JUPITER	2540 34	AY	336
	2 16	2 17 44.9666	1 4 43 42.69	40 43 14.9	9001 ORGAN PASS	2837 3	AY	102
	2 16	2 17 48.9651	1 4 47 29.52	41 16 29.9	9001 ORGAN PASS	2837 5	AY	103
	2 16	4 22 42.4678	1 2 30 31.65	67 27 39.1	9001 ORGAN PASS	2840 13	AY	104
	2 16	4 23 26.0834	1 2 57 45.94	74 13 35.2	9001 ORGAN PASS	2840 16	AY	105
	2 16	16 0 41.5433	10 1 27 40.19	17 52 58.1	9008 SHIRAZ	2582 7	AY	106
	2 16	16 1 36.3803	10 1 42 12.28	25 4 56.7	9008 SHIRAZ	2582 11	AY	107
	2 16	16 4 26.2298	10 2 56 56.61	51 55 48.7	9008 SHIRAZ	2582 17	AY	108
	2 17	23 51 50.7835	3 2 57 4.45	27 45 54.8	9010 JUPITER	2545 10	YK	1127
	2 17	1 51 13.7950	1 3 17 30.64	20 34 52.6	9001 ORGAN PASS	2844 16	BW	109
	2 17	1 52 43.1790	1 4 22 13.35	34 10 32.9	9001 ORGAN PASS	2844 23	BW	110
	2 17	1 54 12.7536	1 5 49 23.67	45 2 17.9	9001 ORGAN PASS	2844 32	BW	111
	2 17	1 56 47.0865	3 1 7 27.09	52 38 36.5	9010 JUPITER	2549 23	AY	112
	2 17	1 59 35.1085	3 1 29 0.33	76 0 47.4	9010 JUPITER	2549 36	AY	113
	2 17	8 27 42.6111	1 13 44 4.03	-18 31 53.4	9009 CURACAO	2387 3	GN	281
	2 17	8 27 46.6145	1 13 46 32.83	-19 9 57.0	9009 CURACAO	2387 4	GN	282
	2 17	8 38 19.7948	1 17 30 53.59	17 29 50.8	9011 V.DOLORES	2341 5	AY	1029
	2 17	8 38 27.7974	1 17 34 5.25	16 43 36.9	9011 V.DOLORES	2341 6	NL	1030

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DATE Y M D	TIME (A-1)			R.A.(1950.0)			DECL.(1950.0)			RMS			STATION	FRAME NO.	MS	OBS. NO.
	H	M	S	H	M	S	U	M	S	U	M	S				
1961 2 17	9 45	52.0723	10	4	3	0.57	31	36	39.3	4	9005	TOKYO	2576	3	GN	
2 17	9 47	8.5934	10	5	12	42.45	41	57	14.2	4	9005	TOKYO	2576	19	GN	
2 17	11 52	50.9043	10	5	6	42.74	77	41	43.6	4	9005	TOKYO	2582	9	SY	
2 17	15 37	27.4824	10	1	46	47.88	27	42	25.8	4	9008	SHIRAZ	2589	11	GN	
2 17	15 38	56.0849	10	2	25	57.49	41	55	3.8	4	9008	SHIRAZ	2589	12	GN	
2 18	2 19	26.3988	3	17	14	12.87	12	7	14.3	4	9002	OLFANTSFTN	2802	6	YK	
2 18	2 20	12.4671	3	17	34	55.24	6	46	54.1	4	9002	OLFANTSFTN	2802	11	YK	
2 18	9 21	14.7005	10	4	1	16.28	28	50	14.3	4	9005	TOKYO	2588	5	YN	
2 18	9 22	45.7958	30	5	24	32.70	40	24	4.2	4	9005	TOKYO	2588	25	YN	
2 18	11 28	24.9690	10	5	50	11.09	78	16	54.7	4	9005	TOKYO	2595	7	SD	
2 18	11 28	28.9688	10	6	3	34.99	78	32	45.6	4	9005	TOKYO	2595	8	SD	
2 18	15 14	10.5254	10	2	21	49.56	39	0	29.1	4	9008	SHIRAZ	2593	21	VD	
2 18	15 15	24.5782	10	3	14	54.09	51	7	37.3	4	9008	SHIRAZ	2593	26	VD	
2 18	15 18	18.5035	10	7	15	7.96	65	59	50.0	4	9008	SHIRAZ	2593	40	VD	
2 18	15 19	36.9866	10	9	1	19.51	63	23	59.7	4	9008	SHIRAZ	2593	54	VD	
2 19	3 9	59.1665	1	4	8	14.17	77	57	57.4	4	9001	GAN PASS	2852	4	OR	
2 19	3 10	45.8260	1	6	50	52.54	81	12	19.8	4	9001	ORGAN PASS	2852	11	BB	
2 19	9 47	42.8801	3	13	55	40.08	-23	32	36.2	4	9007	AREQUIPA	2732	21	BB	
2 19	9 47	46.8822	3	13	58	23.15	-24	20	1.5	4	9007	AREQUIPA	2732	22	BB	
2 19	11 1	53.8888	10	2	42	48.00	63	1	18.2	4	9005	TOKYO	2607	5	YN	
2 19	11 3	11.5324	10	4	22	45.75	74	15	33.7	4	9005	TOKYO	2607	14	YN	
2 19	20 53	23.8539	1	3	29	55.94	70	7	49.3	4	9004	S.FERNANDO	2991	5	VD	
2 19	20 54	34.0705	1	6	9	40.40	77	41	10.5	4	9004	S.FERNANDO	2991	19	VD	
2 20	1 29	57.3172	3	16	46	12.76	17	42	15.5	4	9002	OLFANTSFTN	2812	12	AY	
2 20	19 15	40.0105	1	16	4	29.38	6	57	10.1	4	9003	WOMERA	4440	11	VD	
2 20	19 17	21.9932	1	17	8	25.82	-5	57	12.6	4	9003	WOMERA	4440	25	VD	
2 20	20 28	26.6425	1	3	4	57.06	67	9	16.0	4	9004	S.FERNANDO	2998	5	VD	
2 20	20 29	36.3915	1	5	13	46.38	75	40	53.7	4	9004	S.FERNANDO	2998	21	VD	
2 21	2 18	24.5798	1	1	42	57.47	56	51	15.4	4	9001	ORGAN PASS	2859	6	GN	
2 21	2 20	36.8235	1	4	20	36.96	75	46	25.0	4	9001	ORGAN PASS	2859	24	GN	
2 21	4 24	17.8505	1	1	26	39.47	70	54	3.1	4	9001	ORGAN PASS	2863	14	GN	
2 21	4 25	36.8313	1	1	57	36.72	82	16	22.0	4	9001	ORGAN PASS	2863	23	GN	
2 21	9 4	10.4712	10	16	26	36.55	-12	0	49.4	4	9011	V.DOLORES	2355	10	BB	
2 21	9 4	53.6759	10	17	0	7.57	-17	35	35.2	4	9011	V.DOLORES	2355	13	BB	
2 21	16 7	37.4058	30	1	13	54.39	77	30	39.0	4	9008	SHIRAZ	2618	3	GN	
2 21	16 9	40.1537	30	11	0	43.49	83	53	42.9	4	9008	SHIRAZ	2618	19	GN	
2 21	20 3	55.9751	1	3	13	25.56	67	55	37.6	4	9004	S.FERNANDO	3003	8	YK	
2 21	20 4	27.3943	1	4	4	51.57	71	59	12.2	4	9004	S.FERNANDO	3003	12	YK	
2 22	2 22	2 27.7536	30	21	31	58.26	84	29	35.7	4	9010	JUPITER	2589	21	YN	
2 22	2 22	2 43.6107	30	15	20	53.20	82	32	13.5	4	9010	JUPITER	2589	30	YN	
2 22	2 42	35.0353	3	13	30	20.83	-1	21	17.1	4	9002	OLFANTSFTN	2831	2	LE	
2 22	2 45	1.2065	3	15	15	19.35	-26	45	27.1	4	9002	OLFANTSFTN	2831	8	LE	
2 27	9 50	27.8484	10	2	24	40.59	78	13	50.8	4	9005	TOKYO	2659	8	SD	
2 27	9 51	43.2737	10	7	36	28.32	81	39	5.2	4	9005	TOKYO	2659	21	SD	
2 28	19 16	41.2302	1	3	3	36.99	78	43	49.6	4	9004	S.FERNANDO	3037	8	AY	

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DATE Y M D	TIME (A-1)			R.A. (1950.0)			DECL. (1950.0)			RMS			STATION	FRAME NO.	MS	OBS. NO.		
	H	M	S	H	M	S	D	M	S	D	M	S						
1961 2 28	19	17	6.0986	1	4	32	5.67	80	40	6.2	4	9004	S.FERNANDO	3037	13	AY		
3 1	3	14	40.7050	1	10	15	40.18	80	16	5.2	4	9001	ORGAN PASS	2902	21	SY		
3 1	3	14	44.7042	1	10	22	35.96	79	42	6.4	4	9001	ORGAN PASS	2902	23	SY		
3 1	3	17	39	56.4118	3	14	58	43.79	-28	52	45.9	4	9003	Woomera	4504	11	CL	
3 1	3	17	40	51.4658	3	15	50	52.43	-34	43	56.1	4	9003	Woomera	4504	21	NL	
3 1	3	20	58	34.6461	1	8	25	17.86	67	55	50.5	4	9004	S.FERNANDO	3046	8	PB	
3 2	3	2	2	49	45.3080	1	9	50	6.95	82	18	6.6	4	9001	ORGAN PASS	2911	18	NL
3 2	3	2	2	51	45.0861	1	11	25	43.78	64	27	0.5	4	9011	ORGAN PASS	2911	30	NL
3 2	3	2	7	25	49.0353	1	13	1	37.78	-26	42	25.8	4	9011	V.DOLORES	2370	3	SD
3 2	3	2	7	27	20.9683	1	14	30	59.07	-41	14	35.2	4	9011	V.DOLORES	2370	14	SD
3 2	3	2	17	16	8.3019	1	15	34	25.24	-29	49	6.8	4	9003	Woomera	4510	13	NL
3 2	3	2	17	16	10.2612	1	15	36	8.16	-30	0	9.0	4	9003	Woomera	4510	14	NL
3 3	3	3	18	54	47.0255	1	11	45	4.83	-65	34	6.1	4	9003	Woomera	4521	8	FR
3 3	3	3	18	56	17.5860	1	14	34	58.91	-78	25	45.0	4	9003	Woomera	4521	13	FR
3 3	3	3	20	8	29.1073	1	6	40	34.71	74	14	6.3	4	9004	S.FERNANDO	3054	5	AY
3 3	3	3	20	9	47.3282	1	9	7	54.60	65	31	42.1	4	9004	S.FERNANDO	3054	23	AY
3 4	3	4	19	44	52.6569	1	8	45	36.86	68	16	35.5	4	9004	S.FERNANDO	3057	4	AY
3 4	3	4	19	46	50.3481	1	10	15	58.04	50	11	52.7	4	9004	S.FERNANDO	3057	23	AY
3 5	3	5	17	27	12.4801	10	4	40	17.87	63	44	24.2	4	9008	SHIRAZ	2683	6	TM
3 5	3	5	17	28	4.4189	10	5	57	43.52	63	36	6.3	4	9008	SHIRAZ	2683	14	TM
3 5	3	5	18	5	16.7959	1	11	37	45.73	-60	40	26.8	4	9003	Woomera	4531	14	HY
3 5	3	5	18	5	18.7254	1	11	39	39.34	-61	1	16.9	4	9003	Woomera	4531	15	HY
3 5	3	5	19	18	56.4083	1	5	57	18.95	76	50	32.6	4	9004	S.FERNANDO	3063	4	PG
3 5	3	5	19	19	26.9436	1	7	21	25.28	74	33	16.3	4	9004	S.FERNANDO	3063	8	PG
3 6	3	6	1	58	43.5261	1	9	18	42.57	-64	1	28.7	4	9002	Olfantsftn	2855	5	F1
3 6	3	6	1	59	49.5631	1	9	16	7.74	-73	52	53.8	4	9002	Olfantsftn	2855	16	F1
3 6	3	6	17	41	52.0066	1	13	30	1.66	-69	39	25.6	4	9003	Woomera	4539	8	NL
3 6	3	6	17	42	34.0153	1	15	7	59.76	-72	24	15.7	4	9003	Woomera	4539	15	NL
3 6	3	6	19	44	44.4676	1	9	42	24.82	-62	42	30.7	4	9003	Woomera	4543	3	NL
3 6	3	6	19	47	0.4558	1	9	5	26.39	-83	13	14.2	4	9003	Woomera	4543	7	NL
3 6	3	6	21	0	13.1900	1	7	3	31.92	40	20	50.7	4	9004	S.FERNANDO	3072	6	PG
3 6	3	6	21	0	41.1842	1	7	31	33.13	36	57	4.5	4	9004	S.FERNANDO	3072	13	PG
3 7	3	7	6	51	37.7489	10	9	45	56.50	72	2	9.2	4	9012	Maui	3206	4	NL
3 7	3	7	7	31	9.9451	1	18	12	43.33	-75	30	43.1	4	9011	V.DOLORES	2383	5	YN
3 7	3	7	7	32	25.6443	1	19	49	41.42	-67	0	2.4	4	9011	V.DOLORES	2383	10	YN
3 7	3	7	10	43	48.9045	10	5	43	38.34	57	18	23.2	4	9005	TOKYO	2701	3	FR
3 7	3	7	16	41	42.2109	10	9	32	38.35	47	51	38.6	4	9008	Shiraz	2694	11	TM
3 7	3	7	16	41	46.2110	10	9	35	15.17	47	11	12.1	4	9008	Shiraz	2694	13	TM
3 7	3	7	20	35	26.3242	1	6	49	48.83	44	26	26.6	4	9004	S.FERNANDO	3077	5	SY
3 7	3	7	20	36	26.4320	1	7	49	59.14	36	44	30.0	4	9004	S.FERNANDO	3077	19	SY
3 8	3	8	2	26	39.7582	1	7	5	1.91	72	24	5.7	4	9001	ORGAN PASS	2928	4	FR
3 8	3	8	2	28	0.3035	1	8	58	27.42	61	43	53.2	4	9001	ORGAN PASS	2928	10	FR
3 8	3	8	7	4	37.0386	1	12	34	40.24	-72	14	32.9	4	9011	V.DOLORES	2389	4	GN
3 8	3	8	7	4	41.0389	1	12	43	5.83	-72	44	24.2	4	9011	V.DOLORES	2389	5	GN
3 8	3	8	20	8	6.6267	1	3	23	24.09	53	49	32.0	4	9004	S.FERNANDO	3082	13	SY

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DATE Y M D	TIME (A-1) H M S	RMS MS	R.A.(1950.0)			DECL.(1950.0)			RMS S	STATION	FRAME NO.	MS OBS.NO.
			H	M	S	D	M	S				
1961 3 8	20 10 31.5656	1	6 26	36.44	49 7	6.6	4		9004	S.FERNANDO	3082 20	SY 448
	20 13 7.7158	1	8 45	57.27	27 25	16.0	4		9004	S.FERNANDO	3082 35	SY 449
3 8	20 16 7.0372	1	10 3	25.73	4 40	42.0	4		9004	S.FERNANDO	3082 46	SY 450
3 9	2 1 54.8848	1	6 59	39.90	74 12	27.2	4		9001	ORGAN PASS	2938 6	VD 406
3 9	2 4 14.5783	1	9 33	45.66	53 52	36.6	4		9001	ORGAN PASS	2938 22	VD 407
3 9	6 40 54.4148	1	14 58	28.17	-74 8	1.0	4		9011	V.DOLORES	2392 3	YK 1101
3 9	9 55 8.6021	10	6 30	57.44	59 36	24.2	4		9005	TOKYO	2708 4	FR 1149
3 9	9 55 16.6034	10	6 42	25.72	58 46	40.0	4		9005	TOKYO	2708 5	FR 1150
3 9	19 46 0.6249	1	6 32	7.86	51 4	16.8	4		9004	S.FERNANDO	3088 6	PG 410
3 9	19 46 50.0290	1	7 26	20.53	44 46	19.8	4		9004	S.FERNANDO	3088 17	PG 411
3 10	5 38 48.7080	10	10 40	30.47	62 37	12.7	4		9012	MAUI	3233 12	AY 412
3 10	5 39 32.2373	10	10 50	27.71	56 30	28.3	4		9012	MAUI	3233 22	AY 413
3 10	17 29 9.4052	10	4 56	14.56	26 53	54.0	4		9008	SHIRAZ	2706 6	YK 414
3 10	17 31 7.0004	10	6 16	56.37	15 9	29.8	4		9008	SHIRAZ	2706 13	YK 415
3 10	18 7 59.7687	1	9 14	59.58	-80 6	17.9	4		9003	WOMERA	4564 9	SY 416
3 10	18 8 3.7682	1	9 16	10.51	-80 45	33.0	4		9003	WOMERA	4564 10	SY 417
3 10	19 21 10.2540	1	6 14	10.20	54 49	59.7	4		9004	S.FERNANDO	3095 5	PB 670
3 10	19 22 20.4263	1	7 32	25.78	45 43	7.3	4		9004	S.FERNANDO	3095 21	PB 671
3 10	21 25 53.0069	1	5 47	27.26	3 35	26.4	4		9004	S.FERNANDO	3101 7	BW 349
3 10	21 26 59.5470	1	6 25	28.12	-3 18	30.2	4		9004	S.FERNANDO	3101 22	BW 350
3 11	11 10 35.4658	10	5 39	26.34	14 1	15.0	4		9005	TOKYO	2730 4	PI 900
3 11	11 10 57.8593	10	5 54	43.97	11 36	38.9	4		9005	TOKYO	2730 8	PI 901
3 11	21 1 53.4888	1	6 0	25.59	2 15	22.0	4		9004	S.FERNANDO	3110 5	FR 418
3 11	21 1 57.4890	1	6 2	49.36	1 49	35.5	4		9004	S.FERNANDO	3110 6	FR 419
3 12	4 56 31.3733	1	5 6	47.46	-4 13	55.4	4		9001	ORGAN PASS	2969 6	SY 453
3 11	11 10 35.4658	10	5 39	26.34	14 1	15.0	4		9005	TOKYO	2730 4	PI 900
3 11	11 10 57.8593	10	5 54	43.97	11 36	38.9	4		9005	TOKYO	2730 8	PI 901
3 12	6 55 33.5609	10	8 12	42.22	23 19	57.1	4		9012	MAUI	3253 10	SY 455
3 12	6 56 4.9137	10	8 33	14.76	17 54	28.8	4		9012	MAUI	3253 18	SY 456
3 12	10 46 11.8515	10	5 40	53.86	15 44	39.7	4		9005	TOKYO	2739 5	SY 1151
3 12	17 19 58.8243	1	18 6	34.75	-86 5	13.3	4		9003	WOMERA	4575 9	NL 420
3 12	20 36 46.8194	1	5 33	38.13	8 8	4.6	4		9004	S.FERNANDO	3116 3	BW 421
3 12	20 38 24.3916	1	6 33	51.48	-2 37	58.6	4		9004	S.FERNANDO	3116 15	BW 422
3 13	4 31 20.5656	1	4 39	59.77	0 24	17.5	4		9001	ORGAN PASS	2975 2	FR 457
3 13	4 31 32.5628	1	4 44	43.78	-0 35	3.6	4		9001	ORGAN PASS	2975 5	FR 458
3 13	6 28 48.6344	1	6 34	10.61	46 0	23.9	4		9012	MAUI	3262 4	VD 423
3 13	6 30 47.4002	1	8 10	34.29	28 23	58.8	4		9012	MAUI	3262 10	VD 424
3 13	6 33 4.7182	1	9 27	9.10	5 16	34.2	4		9012	MAUI	3262 23	VD 425
3 13	7 7 29.2631	1	19 44	24.49	-87 2	43.9	4		9011	V.DOLORES	2404 9	YK 426
3 13	7 9 13.7793	1	20 41	45.99	-71 17	30.7	4		9008	SHIRAZ	2710 4	NL 613
3 13	16 17 12.0111	10	6 1	39.14	26 59	32.5	4					
3 13	16 17 14.0113	10	6 3	16.04	26 44	3.6	4		9008	SHIRAZ	2710 5	NL 612
3 13	16 55 29.8685	1	18 2	13.70	-83 54	14.9	4		9003	WOMERA	4587 4	BW 428
3 13	18 56 58.6863	1	8 45	7.51	-64 8	5.4	4		9003	WOMERA	4590 7	SY 459
3 13	20 11 56.7134	1	5 16	31.99	12 25	58.8	4		9004	S.FERNANDO	3123 5	AY 429
3 13	20 13 13.0048	1	6 6	53.22	3 54	17.8	4		9004	S.FERNANDO	3123 23	AY 430

DATE Y M D	TIME (A-1)			RMS			R.A.(1950.0) H M S			DEC!(1950.0) D M S			RMS			STATION			FRAME NO.			MS OBS. NO.		
	H	M	S	H	M	S	D	M	S	D	M	S	D	M	S	MAUI	V.DOLORES	MAUI	MAUI	MAUI	MAUI	2981	7	YK
1961 3 14 4	9	23.8175	1	5	34	21.07	-12	24	3.7	4	9001	ORGAN PASS	2981	7	YK	431								
3 14 4	9	39.8214	1	5	41	15.96	-13	58	6.9	4	9001	ORGAN PASS	2981	11	YK	432								
3 14 6	6	1.3056	1	8	8	55.44	33	3	52.1	4	9012	MAUI	3269	9	SY	693								
3 14 6	8	26.9962	1	9	26	19.98	8	31	26.6	4	9012	MAUI	3269	22	SY	692								
3 14 6	41	58.0151	1	9	25	1.98	-84	18	12.8	4	9011	V.DOLORES	2407	2	HY	433								
3 15 1	47	55.6770	1	6	10	7.77	-7	12	27.9	4	9010	JUPITER	2752	3	YK	461								
3 15 1	49	21.3177	1	6	55	40.39	-17	40	52.5	4	9010	JUPITER	2752	17	YK	462								
3 15 5	39	23.3873	1	6	34	51.20	53	49	26.3	4	9012	MAUI	3277	2	BW	463								
3 15 5	41	7.2347	1	8	2	19.20	38	37	35.7	4	9012	MAUI	3277	10	BW	464								
3 15 5	43	35.1351	1	9	19	7.55	13	39	35.7	4	9012	MAUI	3277	22	SY	465								
3 15 6	18	47.3661	1	19	16	30.13	-80	38	36.4	4	9011	V.DOLORES	2412	6	FI	1031								
3 15 7	46	13.0187	1	5	59	34.33	-20	18	12.4	4	9012	MAUI	3280	4	HY	466								
3 15 7	46	37.1955	1	6	9	25.25	-23	7	32.5	4	9012	MAUI	3280	11	HY	467								
3 15 8	10	2.7522	1	7	5	53.06	-84	17	9.9	4	9003	WOOMERA	4615	11	HY	468								
3 15 8	11	35.5185	1	21	42	19.05	-80	39	26.9	4	9003	WOOMERA	4615	18	HY	468								
3 16 1	22	56.5985	1	5	53	27.83	-1	34	15.6	4	9010	JUPITER	2761	2	BW	469								
3 16 1	24	3.7235	1	6	31	20.02	-10	16	24.8	4	9010	JUPITER	2761	11	YK	470								
3 16 3	16	12.0684	1	3	23	35.66	12	42	6.6	4	9001	ORGAN PASS	2990	4	HY	471								
3 16 3	18	5.2038	1	4	15	50.24	3	40	15.0	4	9001	ORGAN PASS	2990	14	HY	472								
3 16 3	20	16.4837	1	5	18	54.08	-9	25	14.7	4	9001	ORGAN PASS	2990	22	HY	473								
3 16 5	16	17.5107	1	7	59	3.13	42	57	15.1	4	9012	MAUI	3281	11	HY	474								
3 16 5	16	37.5794	1	8	11	48.47	39	35	10.7	4	9012	MAUI	3281	17	HY	475								
3 16 17	44	45.6128	1	7	32	13.86	-78	56	13.4	4	9003	WOOMERA	4627	8	PI	476								
3 16 17	46	5.8287	1	1	0	20	10.83	-87	14	44.8	4	9003	WOOMERA	4627	13	PI	477							
3 16 19	52	48.6902	1	19	37	58.37	-66	30	19.6	4	9003	WOOMERA	4631	6	SD	478								
3 16 5	19	52	50.6456	1	19	39	47.86	-66	9	45.1	4	9003	WOOMERA	4631	7	SD	479							
3 16 7	34	30.8639	10	20	47	35.18	-79	32	11.4	4	9011	V.DOLORES	2423	11	PI	566								
3 16 10	46	24.8647	10	4	14	22.08	-5	55	14.4	4	9005	TOKYO	2751	5	GN	714								
3 16 12	29	29.1407	1	4	21	41.59	7	8	45.9	4	9012	MAUI	3304	6	HY	480								
3 16 12	31	41.9762	1	5	24	40.02	-9	9	34.4	4	9012	MAUI	3304	10	HY	481								
3 16 19	51	45.0796	1	19	19	19.52	-53	38	23.6	4	9011	V.DOLORES	2439	4	FR	695								
3 17 6	7	10.1470	1	5	23	7.65	-7	12	40.5	4	9012	MAUI	3313	3	FR	695								
3 17 6	8	31.1607	1	6	5	8.25	-18	6	52.3	4	9012	MAUI	3313	16	FR	694								
3 17 6	44	36.1714	1	20	49	38.88	-85	0	16.5	4	9011	V.DOLORES	2435	9	VD	567								
3 17 6	45	56.0796	1	20	21	15.58	-72	30	44.4	4	9011	V.DOLORES	2435	12	GN	568								
3 17 8	51	45.05527	1	4	12	41.43	-53	38	23.6	4	9011	V.DOLORES	2439	4	FR	569								
3 19 8	53	34.1614	1	20	8	59.07	-34	16	17.9	4	9011	V.DOLORES	2439	12	FR	570								
3 19 8	54	34.7682	1	20	26	6.83	-25	1	22.0	4	9011	V.DOLORES	2439	14	FR	571								
3 19 8	50	15.8068	10	6	38	54.47	9	44	59.6	4	9009	CURACAO	2514	6	BW	482								
3 19 8	50	49.6623	10	6	59	42.53	3	54	40.5	4	9009	CURACAO	2514	11	BW	483								
3 19 8	40	29.6084	10	4	12	41.43	12	2	14.2	4	9012	MAUI	3321	4	BW	484								
3 19 8	52	43.5597	10	5	25	56.03	-5	46	44.3	4	9012	MAUI	3321	9	SY	485								
3 19 8	20	36.0483	1	20	12	1.68	-78	44	2.5	4	9011	V.DOLORES	2452	4	YK	486								
3 19 8	25	46.0388	1	18	0	35.77	-69	20	37.8	4	9011	V.DOLORES	2456	7	GN	550								
3 19 8	27	13.7218	1	19	21	16.49	-53	48	23.3	4	9011	V.DOLORES	2456	14	GN	551								
3 20 23	25	13.5024	3	6	27	28.25	18	6	24.8	4	9009	CURACAO	2520	2	AY	1138								

Satellite 1960 z2

20-29 March 1961

DATE Y M D	TIME (A-1)			RMS			DECL.(1950.0)			RMS			STATION	FRAME NO.	MS	OBS. NO.
	H	M	S	H	M	S	D	M	S	D	M	S				
1961 3 20	23	26	2.4467	3	6	58	8.57	9	39	24.4	4	9009	CURACAO	2520	6	AY 1139
3 21	1	29	32.5200	30	4	36	6.28	-25	36	56.4	4	9009	CURACAO	2524	6	YK 487
3 21	17	49	0.3085	1	19	20	43.80	-75	0	58.0	4	9003	WOOMERA	4663	12	VD 488
3 21	17	49	8.1499	1	19	25	4.42	-73	41	34.2	4	9003	WOOMERA	4663	14	VD 489
3 22	0	57	44.3188	1	3	40	42.45	-12	29	3.1	4	9010	JUPITER	2779	4	YK 490
3 22	0	59	17.0810	1	4	12	17.16	-21	11	27.1	4	9010	JUPITER	2779	12	YK 491
3 22	1	4	58.8936	1	4	27	33.78	-24	59	35.2	4	9009	CURACAO	2530	7	NL 582
3 22	1	5	55.5425	1	4	43	6.25	-31	10	36.0	4	9009	CURACAO	2530	9	NL 583
3 23	0	50	42.3387	1	8	25	50.96	12	8	42.1	4	9011	V. DOLORES	2480	3	BK 1132
3 23	0	52	22.6509	1	9	24	40.99	-0	0	44.5	4	9011	V. DOLORES	2480	9	BK 1133
3 23	9	19	6.8951	1	20	0	14.72	-51	32	6.8	4	9007	AREQUIPA	2837	19	YN 492
3 23	9	19	10.8949	1	20	1	46.06	-50	52	3.6	4	9007	AREQUIPA	2837	20	YN 493
3 23	10	40	54.4865	1	10	1	32.75	7	10	51.0	4	9003	WOOMERA	4676	8	SY 494
3 23	10	41	2.3259	1	10	5	45.98	6	17	20.2	4	9003	WOOMERA	4676	10	SY 495
3 23	16	59	56.4719	1	19	21	34.97	-72	48	35.9	4	9003	WOOMERA	4682	5	VD 593
3 23	17	1	3.1097	1	19	32	33.11	-62	2	24.7	4	9003	WOOMERA	4682	7	VD 594
3 23	19	5	27.7103	1	17	4	17.48	-43	3	13.8	4	9003	WOOMERA	4685	13	LE 496
3 23	19	6	40.2422	1	18	3	57.63	-29	47	36.3	4	9003	WOOMERA	4685	18	LE 497
3 24	3	0	29.6262	1	16	43	43.29	-34	18	13.9	4	9002	OLFANTSFTN	2927	9	SY 766
3 24	3	1	1.7688	1	17	12	25.61	-28	42	34.6	4	9002	OLFANTSFTN	2927	14	SY 767
3 25	5	43	26.3722	1	3	37	23.71	-24	25	11.9	4	9012	MAUI	3350	10	GN 549
3 26	11	31	40.8021	1	8	21	42.95	-39	13	40.2	4	9003	WOOMERA	4720	7	SY 498
3 26	11	32	55.8674	1	9	41	26.20	-49	24	25.8	4	9003	WOOMERA	4720	12	SY 499
3 26	17	20	5.2286	1	8	43	56.28	-6	46	11.2	4	9002	OLFANTSFTN	2930	12	SD 768
3 26	17	20	11.2609	1	8	47	54.69	-7	38	13.7	4	9002	OLFANTSFTN	2930	15	SD 769
3 26	17	50	52.7011	1	16	21	12.12	-58	48	39.3	4	9003	WOOMERA	4724	5	AY 500
3 26	17	52	51.3982	1	18	1	2.39	-37	17	49.4	4	9003	WOOMERA	4724	19	AY 501
3 26	19	54	19.1736	1	14	5	31.65	-7	17	29.1	4	9003	WOOMERA	4729	4	BW 502
3 26	19	56	1.1511	1	15	6	23.28	4	47	54.8	4	9003	WOOMERA	4729	10	BW 503
3 27	11	5	33.4087	1	7	13	51.20	-21	14	10.6	4	9003	WOOMERA	4731	4	YK 504
3 27	11	7	8.4995	1	8	26	42.15	-36	35	40.8	4	9003	WOOMERA	4731	11	YK 505
3 27	17	29	33.4284	1	18	30	7.08	-25	45	58.6	4	9003	WOOMERA	4737	6	TM 595
3 27	17	29	37.3409	1	18	31	23.18	-25	9	20.0	4	9003	WOOMERA	4737	7	TM 596
3 27	18	59	32.7537	1	5	40	49.65	-47	37	18.3	4	9002	OLFANTSFTN	2936	5	SY 770
3 27	19	0	12.1275	1	5	57	38.04	-54	15	8.3	4	9002	OLFANTSFTN	2936	13	SY 771
3 27	19	31	29.5736	1	15	1	16.65	2	27	25.8	4	9003	WOOMERA	4739	12	YK 506
3 28	7	17	13.0674	1	18	2	45.23	-11	41	8.9	4	9011	V.DOLORES	2502	7	HY 507
3 28	7	17	17.0682	1	18	4	22.26	-11	6	45.4	4	9011	V.DOLORES	2502	8	HY 508
3 29	0	28	50.0270	1	6	55	51.02	-31	48	52.4	4	9011	V.DOLORES	2504	10	LE 572
3 29	0	32	42.9740	1	11	18	18.03	-57	48	6.2	4	9011	V.DOLORES	2504	30	LE 573
3 29	12	23	22.9427	1	6	15	51.18	-71	56	41.5	4	9003	WOOMERA	4756	6	SD 509
3 29	15	1	21.0784	1	20	51	21.52	-22	42	35.4	4	9012	MAUI	3377	8	HY 1063
3 29	15	1	29.0782	1	20	53	58.23	-21	50	59.6	4	9012	MAUI	3377	10	HY 1064
3 29	18	11	36.0856	1	6	32	37.16	-58	44	17.7	4	9002	OLFANTSFTN	2946	3	SD 772
3 29	18	12	39.8275	1	7	45	43.89	-67	46	34.6	4	9002	OLFANTSFTN	2946	10	SD 773

Satellite 1960 v230 March - 10 April 1961

DATE Y M D	TIME (A-1)			RMS			RMS			DECL. (1950.0)			STATION			FRAME NO.			MS			OBS.NO.					
	H	M	S	H	M	S	D	H	S	D	H	S	9011	V•DOLORES	2515	5	SD	510	511	512	513	774	775	776	777	717	718
1961 3 30	23	39	21.0093	1	6	45	26.06	-23	43	27.7	4	9011	V•DOLORES	2515	5	SD	510	511	512	513	774	775	776	777	717	718	
3 30	23	41	10.3386	1	8	16	49.54	-40	23	31.7	4	9011	V•DOLORES	2515	17	SD	511	512	513								
3 30	23	43	35.1419	1	10	59	48.17	-50	56	7.3	4	9011	V•DOLORES	2515	27	SD											
3 31	2	13	43.6237	1	15	3	1.94	11	17	24.1	4	9002	OLFANTSFTN	2958	5	F1											
4 1	11	56	1.2195	1	20	25	3.40	-16	22	32.8	4	9001	ORGAN PASS	3038	12	HY											
4 1	11	56	5.2183	1	20	26	49.51	-15	58	12.6	4	9001	ORGAN PASS	3038	13	HY	514										
4 2	18	38	30.8574	1	3	41	13.71	-72	51	39.6	4	9002	OLFANTSFTN	2960	8	VD											
4 2	18	38	39.0325	1	3	40	31.81	-74	0	0.8	4	9002	OLFANTSFTN	2960	10	VD											
4 3	11	7	11.1994	1	20	12	0.10	-17	17	41.8	4	9001	ORGAN PASS	3053	17	YK											
4 3	11	8	25.4290	1	20	40	58.72	-10	20	12.1	4	9001	ORGAN PASS	3053	23	YK											
4 4	9	52	57.7332	1	4	43	45.97	-41	48	28.1	4	9003	WOOMERA	4765	10	AY	515										
4 4	9	54	53.2397	1	6	6	5.51	-60	59	13.7	4	9003	WOOMERA	4765	18	AY	516										
4 4	9	56	31.5709	1	8	50	22.41	-71	27	29.2	4	9003	WOOMERA	4765	24	AY	517										
4 4	12	1	36.4945	1	3	31	21.31	-86	53	22.8	4	9003	WOOMERA	4770	14	SD	518										
4 4	12	1	40.4209	1	3	21	13.35	-87	27	57.3	4	9003	WOOMERA	4770	15	SD	519										
4 4	14	37	6.2302	1	18	37	39.06	-8	11	17.4	4	9012	MAUI	3402	10	BW	1065										
4 4	14	37	30.6667	1	18	52	35.10	-4	21	58.4	4	9012	MAUI	3402	18	BW	1066										
4 4	23	43	49.0048	30	7	47	11.26	-75	59	54.5	4	9011	V•DOLORES	2525	8	SD	520										
4 4	0	28	5.8264	10	19	5	13.77	-20	8	49.1	4	9008	SHIRAZ	2843	20	HY	915										
4 4	5	0	29	26.2088	10	19	44	34.97	-11	0	48.3	4	9008	SHIRAZ	2843	25	HY	914									
4 4	5	1	48	52.9015	1	4	12	43.62	-84	37	55.0	4	9011	V•DOLORES	2529	14	SD	521									
4 4	5	1	49	9.7741	1	4	6	1.21	-87	12	57.0	4	9011	V•DOLORES	2529	17	SD	522									
4 4	5	9	29	30.9313	1	5	27	52.24	-52	22	43.7	4	9003	WOOMERA	4775	20	HY	523									
4 4	5	9	30	54.9721	1	7	3	42.59	-64	30	26.4	4	9003	WOOMERA	4775	26	HY	524									
4 4	5	10	21	10.6456	1	17	53	46.10	10	53	57.0	4	9010	JUPITER	2877	2	HY	525									
4 4	5	10	22	7.8900	1	18	37	57.26	20	31	6.8	4	9010	JUPITER	2877	12	HY	526									
4 4	5	23	17	46.4511	1	5	31	30.62	-64	1	56.7	4	9011	V•DOLORES	2537	3	HY	563									
4 4	5	23	19	7.2980	1	7	46	8.36	-74	6	2.9	4	9011	V•DOLORES	2537	9	HY	564									
4 4	5	23	20	24.0068	1	11	7	3.60	-74	22	35.7	4	9011	V•DOLORES	2537	15	HY	565									
4 4	6	13	47	57.8189	10	18	33	19.73	-13	45	19.9	4	9012	MAUI	3417	8	FR	547									
4 6	13	49	28.4964	10	19	21	29.51	-0	54	23.7	4	9012	MAUI	3417	19	FR	548										
4 4	8	15	3	37.8039	1	15	53	2.56	44	23	50.2	4	9012	MAUI	3439	5	BW	546									
4 4	8	15	3	58.1035	1	16	8	1.74	48	6	26.6	4	9012	MAUI	3439	11	BW	545									
4 4	9	0	10	25.4047	1	4	59	7.42	-87	28	50.5	4	9011	V•DOLORES	2547	3	FI	527									
4 4	9	0	10	29.4048	1	5	29	32.88	-88	1	20.4	4	9011	V•DOLORES	2547	4	FI	528									
4 9	8	41	34.4819	1	14	12	8.52	32	32	15.0	4	9009	CURACAO	2583	3	YK	580										
4 9	8	43	35.1608	1	15	13	17.05	53	17	6.9	4	9009	CURACAO	2583	15	YK	581										
4 9	14	38	34.0743	1	15	39	1.59	36	41	36.3	4	9012	MAUI	3448	3	SD	543										
4 9	14	39	0.6397	1	15	57	49.16	41	45	4.8	4	9012	MAUI	3448	19	SD	544										
4 10	0	27	48.2589	10	16	0	25.10	-2	33	6.5	4	9008	SHIRAZ	2857	5	NL	916										
4 10	0	29	32.5796	10	17	8	19.80	13	45	33.2	4	9008	SHIRAZ	2857	12	NL	917										
4 10	8	17	43.8315	1	14	34	3.48	38	50	16.8	4	9009	CURACAO	2588	2	HY	578										
4 10	8	18	47.9991	1	15	13	8.44	50	0	27.7	4	9009	CURACAO	2588	10	HY	579										
4 10	9	31	35.5266	1	3	17	37.77	-69	33	36.6	4	9003	WOOMERA	4783	16	SY	1152										
4 10	9	32	5.6338	1	3	33	14.87	-74	13	22.3	4	9003	WOOMERA	4783	23	SY											

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10-17 April 1961

DATE Y M D	TIME (A-1) H M S	R.A.(1950.0)			DEC(L.1950.0)			RMS S.	STATION	FRAME NO.	MS	OBS.NO.
		H	M	S	D	M	S					
1961 4 10	9 34 17.3247	1	12	21	28.09	-83	32	29.5	4	9003	WOOMERA	4783 32
4 11	0 4 54.5315	10	17	5 47.98	9	24	44.1	4	9008	SHIRAZ	2867 9	
4 11	0 7 6.4168	10	18	55 20.64	28	40	27.3	4	9008	SHIRAZ	2867 17	
4 11	0 9 14.0867	10	20	44 22.90	38	5	13.1	4	9008	SHIRAZ	2867 25	
4 11	1 24 4.1472	1	4	8 47.92	-69	59	48.8	4	9011	V.DOLORES	2563 11	
4 11	1 25 50.2758	1	6	8 32.53	-84	17	36.7	4	9011	V.DOLORES	2563 17	
4 11	1 12 2.5939	1	3	8 42.47	-72	21	11.2	4	9003	WOOMERA	4793 5	
4 11	1 15 22.2768	1	15	29 53.83	-78	35	17.4	4	9003	WOOMERA	4793 23	
4 11	22 55 23.5921	1	3	30 46.48	-78	40	43.1	4	9011	V.DOLORES	2569 7	
4 11	22 57 41.4635	1	13	33 1.11	-79	16	45.7	4	9011	V.DOLORES	2569 16	
4 12	1 0 20.1997	1	4	12 0.64	-78	4	57.5	4	9011	V.DOLORES	2573 12	
4 12	1 1 22.8485	1	6	50 10.75	-86	27	28.2	4	9011	V.DOLORES	2573 15	
4 12	3 37 38.5332	1	17	35 35.42	-3	55	52.9	4	9004	S.FERNANDO	3200 4	
4 12	3 39 30.9294	1	18	52 37.08	9	23	53.6	4	9004	S.FERNANDO	3200 25	
4 12	9 31 43.2557	1	19	23 2.43	6	38	56.5	4	9001	ORGAN PASS	3077 29	
4 12	11 34 0.6702	1	16	39 34.06	48	49	55.6	4	9001	ORGAN PASS	3080 13	
4 12	11 34 4.6715	1	16	43 48.83	49	30	26.7	4	9001	ORGAN PASS	3080 15	
4 12	13 25 54.0603	1	16	51 26.02	38	15	30.5	4	9012	MAUI	3456 4	
4 12	13 26 15.9270	1	17	12 30.30	41	30	22.4	4	9012	MAUI	3456 11	
4 12	23 16 6.8334	10	17	18 34.96	5	20	27.7	4	9008	SHIRAZ	2884 8	
4 12	23 19 49.4900	10	20	4 23.34	30	1	19.0	4	9008	SHIRAZ	2884 21	
4 12	23 21 27.1193	10	21	5 46.07	33	47	56.6	4	9008	SHIRAZ	2884 24	
4 13	0 38 1.8311	1	14	27 52.00	-79	9	46.8	4	9011	V.DOLORES	2581 3	
4 13	0 38 9.8313	1	14	33 1.09	-77	54	46.3	4	9011	V.DOLORES	2581 5	
4 14	8 43 51.2325	1	14	53 19.86	33	44	50.6	4	9010	JUPITER	2908 4	
4 14	8 45 41.4966	1	16	30 56.32	53	32	31.4	4	9010	JUPITER	2908 28	
4 14	10 0 16.3452	1	15	27 10.26	-87	21	33.6	4	9003	WOOMERA	4807 3	
4 14	10 1 53.4276	1	14	48 56.20	-73	19	37.8	4	9003	WOOMERA	4807 16	
4 14	14 40 23.4861	1	12	56 51.27	55	48	19.4	4	9012	MAUI	3473 6	
4 14	14 41 10.5914	1	13	3 34.08	62	51	0.9	4	9012	MAUI	3473 15	
4 14	23 50 26.5479	1	14	39 46.34	-63	6	47.5	4	9011	V.DOLORES	2591 6	
4 14	23 50 30.5485	1	14	40 19.59	-62	32	23.8	4	9011	V.DOLORES	2591 7	
4 15	2 25 8.0310	1	18	9 39.65	-0	51	29.0	4	9004	S.FERNANDO	3212 8	
4 15	2 25 48.7500	1	18	21 56.90	1	19	28.6	4	9004	S.FERNANDO	3212 12	
4 15	8 19 29.1976	1	15	5 1.37	33	30	38.3	4	9010	JUPITER	2918 6	
4 15	8 20 40.9418	1	16	8 32.61	46	31	47.9	4	9010	JUPITER	2918 15	
4 15	9 34 56.3412	1	1	30 40.95	-87	3	4.2	4	9003	WOOMERA	4815 14	
4 15	9 36 50.4446	1	14	32 34.33	-76	18	46.8	4	9003	WOOMERA	4815 20	
4 15	14 14 41.8736	1	12	41 26.53	45	51	22.2	4	9012	MAUI	3480 4	
4 15	14 16 10.9795	1	12	56 52.48	59	31	43.2	4	9012	MAUI	3480 17	
4 16	0 3 49.4991	10	13	23 8.85	19	58	14.3	4	9008	SHIRAZ	2901 4	
4 16	0 6 47.2411	10	14	40 34.26	50	48	35.0	4	9008	SHIRAZ	2901 12	
4 17	11 33 9.1721	1	13	13 46.50	42	30	22.1	4	9001	ORGAN PASS	3107 6	
4 17	11 36 9.9153	1	14	23 31.23	72	37	5.6	4	9001	ORGAN PASS	3107 16	
4 17	11 39 16.5751	1	23	51 58.99	73	38	43.7	4	9001	ORGAN PASS	3107 30	

Satellite 1960 z217-26 April 1961

DATE Y M D	TIME (A-1)			RMS MS	R.A.(1950.0) H M S	DECL.(1950.0) D M S	STATION	FRAME NO.	MS	OBS. NO.
	H	M	S							
1961 4 17	17	25	19.2083	10	17 30 35.09	39 10 9.1	4	9005 TOKYO	2895 17	TM 1156
4 17	23	16	53.5045	10	14 14 43.72	39 8 44.0	4	9008 SHIRAZ	2908 4	PG 927
4 17	23	18	43.5747	10	16 0 53.82	58 33 7.2	4	9008 SHIRAZ	2908 22	PG 926
4 18	9	7	4.2360	1	17 15 29.24	32 38 12.9	4	9001 ORGAN PASS	3112 3	SD 602
4 18	9	8	50.9399	1	19 2 55.49	40 56 32.3	4	9001 ORGAN PASS	3112 11	SD 603
4 18	9	11	8.1910	1	20 52 7.95	41 49 10.2	4	9001 ORGAN PASS	3112 20	SD 604
4 18	22	53	31.8758	10	15 21 47.85	50 18 43.9	4	9008 SHIRAZ	2918 3	PG 929
4 18	22	55	16.9122	10	17 53 0.05	62 1 19.0	4	9008 SHIRAZ	2918 17	PG 928
4 19	0	57	2.9084	10	12 33 7.99	56 49 53.2	4	9008 SHIRAZ	2921 5	AY 932
4 19	0	58	54.4541	10	12 34 58.38	73 42 25.3	4	9008 SHIRAZ	2921 24	AY 931
4 19	0	59	55.4239	10	12 21 43.32	83 10 36.3	4	9008 SHIRAZ	2921 34	SY 930
4 19	8	46	1.9886	10	12 32 41.52	58 20 54.1	4	9010 JUPITER	2945 8	PG 574
4 20	8	21	34.8234	1	12 31 21.40	59 49 33.5	4	9010 JUPITER	2955 8	LE 575
4 20	8	22	57.5529	1	13 8 39.40	73 42 24.6	4	9010 JUPITER	2955 17	LE 576
4 20	9	40	28.9623	1	13 39 43.05	-55 18 33.6	4	9003 WOOMERA	4838 8	SY 589
4 20	9	40	32.8725	1	13 40 29.89	-54 43 49.0	4	9003 WOOMERA	4838 9	SY 590
4 21	0	7	56.4987	10	12 13 39.68	57 57 0.1	4	9008 SHIRAZ	2939 7	TM 934
4 21	0	9	56.6072	10	12 30 37.70	77 12 22.9	4	9008 SHIRAZ	2939 11	TM 933
4 21	7	58	27.5599	1	13 26 34.06	74 44 10.5	4	9010 JUPITER	2957 7	CS 577
4 21	9	15	47.0448	1	13 29 13.39	-55 54 22.3	4	9003 WOOMERA	4850 23	NL 808
4 21	11	16	35.5784	1	7 18 12.45	-56 53 43.1	4	9003 WOOMERA	4855 4	FI 810
4 21	11	17	34.9396	1	8 35 33.00	-55 23 40.6	4	9003 WOOMERA	4855 8	FI 809
4 21	23	43	35.8051	10	12 7 43.54	60 30 13.1	4	9008 SHIRAZ	2947 12	PG 935
4 21	23	45	18.4773	10	12 33 49.20	77 24 52.0	4	9008 SHIRAZ	2947 19	PG 936
4 22	16	45	50.6797	1	13 44 54.08	-58 15 20.8	4	9002 OLFACTFTN	3018 7	YN 777
4 21	11	16	35.5784	1	7 18 12.45	-37 5 43.5	4	9011 V.DOLORES	2625 19	YN 556
4 21	11	17	34.9396	1	8 35 33.00	-29 31 42.9	4	9011 V.DOLORES	2625 23	YN 557
4 21	23	43	35.8051	10	12 7 43.54	-57 55 5.0	4	9003 WOOMERA	4864 6	NL 811
4 21	23	45	18.4773	10	12 33 49.20	-43 3 2.5	4	9003 WOOMERA	4864 16	NL 812
4 22	16	45	50.6797	1	13 44 54.08	-33 50 33.2	4	9011 V.DOLORES	2638 14	BK 558
4 23	0	41	22.5700	1	9 22 47.80	-37 5 43.5	4	9011 V.DOLORES	2638 20	BK 559
4 23	0	42	17.9626	1	10 14 37.86	-29 31 42.9	4	9011 V.DOLORES	2649 10	LE 560
4 23	10	29	6.7805	1	9 37 42.00	-57 55 5.0	4	9003 WOOMERA	3123 6	NL 597
4 23	10	30	46.8896	1	11 23 19.50	-43 3 2.5	4	9003 WOOMERA	3123 15	NL 598
4 24	0	17	36.5659	1	10 9 45.98	-33 50 33.2	4	9003 WOOMERA	4875 4	HY 814
4 24	0	18	27.4950	1	10 51 31.63	-25 41 54.2	4	9011 V.DOLORES	2638 20	BK 559
4 24	23	50	56.6905	1	17 54 40.85	-51 14 39.2	4	9003 WOOMERA	2649 10	LE 560
4 25	8	19	35.7519	1	15 44 49.50	65 49 7.6	4	9001 ORGAN PASS	3123 6	NL 597
4 25	8	21	15.8890	1	19 3 25.76	66 32 10.5	4	9001 ORGAN PASS	3123 15	NL 598
4 25	9	40	21.9901	1	10 22 56.47	-58 20 22.2	4	9003 WOOMERA	4875 4	HY 814
4 25	9	42	34.2617	1	11 59 6.06	-36 9 11.5	4	9003 WOOMERA	4875 12	HY 813
4 25	10	23	0.9270	1	11 44 38.08	68 21 52.6	4	9001 ORGAN PASS	3127 3	SY 599
4 25	11	43	15.0936	1	7 40 18.70	-13 59 16.2	4	9003 WOOMERA	4882 3	NL 816
4 25	11	45	6.6949	1	8 46 2.48	-1 52 45.8	4	9003 WOOMERA	4882 11	NL 815
4 25	23	28	9.8689	1	9 58 30.68	-42 15 13.5	4	9011 V.DOLORES	2661 9	LE 552
4 25	23	28	52.7888	1	10 35 18.97	-35 17 56.0	4	9011 V.DOLORES	2661 15	LE 553
4 26	0	13	7.0061	10	4 30 5.68	85 36 48.2	4	9008 SHIRAZ	2964 5	TM 938
4 26	0	13	23.0060	10	3 2 13.22	84 18 4.3	4	9008 SHIRAZ	2964 9	TM 937
4 26	1	30	14.7276	1	7 34 3.92	-3 53 34.9	4	2011 V.DOLORES	2665 11	SY 1036
4 26	1	31	23.4492	1	8 5 56.32	2 41 36.3	4	9011 V.DOLORES	2665 15	SY 1037

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DATE Y M D	TIME (A-1) H M S	RMS MS	R.A.(1950.0)			DECL.(1950.0)			STATION	FRAME NO.	MS	OBS.NO.
			H	M	S	D	M	S				
1961 4 26	9 15 22.5711	1	10 1 39.13	-63	3 23.6	4	9003	WOOMERA	4889 9	NL	588	
4 26	11 19 29.6025	1	8 0 18.22	-12	5 51.3	4	9003	WOOMERA	4896 3	FR	817	
4 26	11 20 30.5546	1	8 38 46.08	-4	56 16.9	4	9003	WOOMERA	4896 8	FR	818	
4 26	17 11 25.0570	1	10 49 53.37	-50	26 33.0	4	9002	OLFANTSFTN	3045 11	HY	778	
4 26	17 12 18.0617	1	11 28 36.17	-41	18 12.9	4	9002	OLFANTSFTN	3045 15	HY	779	
4 26	23 3 14.2486	10	9 41 37.46	-47	49 10.7	4	9011	V.DOLORES	2672 16	HY	1039	
4 26	23 3 51.6123	10	10 16 25.01	-41	56 30.7	4	9011	V.DOLORES	2672 22	HY	1038	
4 26	23 48 10.5125	10	6 18 8.18	85	55 24.2	4	9008	SHIRAZ	2975 19	TM	939	
4 26	23 48 22.5127	10	4 40 38.52	85	49 0.4	4	9008	SHIRAZ	2975 22	TM	940	
4 27	1 6 42.0468	1	7 52 6.22	-0	10 25.0	4	9011	V.DOLORES	2678 9	YN	554	
4 27	1 7 46.8012	1	8 24 35.16	6	45 12.6	4	9011	V.DOLORES	2678 18	YN	555	
4 27	7 31 49.9946	1	18 6 37.82	61	22 47.0	4	9001	ORGAN PASS	3140 14	HY	600	
4 27	7 32 8.9424	1	18 32 49.72	60	39 0.6	4	9001	ORGAN PASS	3140 19	HY	601	
4 27	10 55 7.0134	1	8 0 38.27	-13	58 40.5	4	9003	WOOMERA	4909 6	AY	586	
4 27	10 57 29.3952	1	9 33 15.17	-4	16 54.9	4	9003	WOOMERA	4909 19	AY	587	
4 27	15 23 39.4701	3	15 29 59.31	58	9 12.1	4	9005	TOKYO	2951 9	TM	1115	
4 27	15 24 3.4477	3	16 11 17.33	59	57 40.3	4	9005	TOKYO	2951 13	TM	1114	
4 27	17 27 27.9680	10	12 26 18.15	71	0 7.1	4	9005	TOKYO	2955 7	PB	1123	
4 27	17 29 7.3055	10	17 34 56.94	84	32 9.1	4	9005	TOKYO	2955 16	PB	1122	
4 27	18 50 34.2464	1	8 9 26.69	-1	15 19.0	4	9002	OLFANTSFTN	3062 5	SY	780	
4 27	18 51 50.8401	1	8 49 44.19	8	23 40.2	4	9002	OLFANTSFTN	3062 15	SY	781	
4 27	21 18 6.2964	10	15 19 59.97	78	11 27.3	4	9008	SHIRAZ	2983 12	SY	942	
4 27	21 18 26.2948	10	16 30 53.69	78	57 14.0	4	9008	SHIRAZ	2983 17	SY	941	
4 27	23 22 50.6604	10	9 18 22.70	82	29 37.1	4	9008	SHIRAZ	2986 9	F1	944	
4 27	23 22 58.6604	10	8 57 16.59	83	28 22.6	4	9008	SHIRAZ	2986 10	F1	943	
4 28	10 31 28.5790	1	8 34 13.10	-10	18 9.2	4	9003	WOOMERA	4920 2	AY	584	
4 28	10 32 7.1931	1	9 0 32.10	-5	3 58.6	4	9003	WOOMERA	4920 13	AY	585	
4 28	18 26 9.2776	1	8 7 42.94	-2	53 51.00	4	9002	OLFANTSFTN	3068 13	VD	782	
4 28	18 27 33.0916	1	8 54 41.76	8	7 57.6	4	9002	OLFANTSFTN	3068 22	VD	783	
4 30	2 29 43.6899	1	13 31 0.36	78	36 25.7	4	9004	S.FERNANDO	3272 6	AY	859	
4 30	2 30 19.3066	1	15 56 22.66	82	32 8.7	4	9004	S.FERNANDO	3272 12	AY	860	
4 30	4 36 16.0443	1	20 45 37.38	70	36 31.6	4	9004	S.FERNANDO	3276 5	HY	861	
4 30	4 36 54.3774	1	21 40 28.36	64	25 9.2	4	9004	S.FERNANDO	3276 12	HY	862	
4 30	8 20 33.4074	1	11 28 21.22	75	46 4.5	4	9001	ORGAN PASS	3170 11	MN	1146	
4 30	17 37 3.3636	1	7 59 46.12	-8	48 11.5	4	9002	OLFANTSFTN	3088 10	VD	784	
4 30	17 38 3.2301	1	8 37 28.09	-0	25 11.3	4	9002	OLFANTSFTN	3088 21	VD	785	
5 1	9 17 3.8363	1	7 56 16.08	-26	12 19.2	4	9003	WOOMERA	4936 7	SY	819	
5 1	9 18 30.8666	1	9 2 57.63	-13	37 25.7	4	9003	WOOMERA	4936 13	SY	820	
5 1	17 12 33.0399	1	7 59 41.83	-11	41 36.2	4	9002	OLFANTSFTN	3098 15	HY	787	
5 2	19 15 51.5051	10	16 47 36.80	64	47 43.8	4	9008	SHIRAZ	3045 21	YN	946	
5 2	19 16 3.5039	10	17 5 38.23	64	22 30.8	4	9008	SHIRAZ	3045 24	YN	945	
5 2	22 39 2.1234	1	6 55 35.51	-18	34 30.7	4	9011	V.DOLORES	2713 4	NL	1041	
5 2	22 39 54.6248	1	7 33 3.85	-12	11 23.2	4	9011	V.DOLORES	2713 12	SY	1040	
5 3	2 56 35.6871	1	13 55 53.34	-19	50 59.1	4	9001	ORGAN PASS	3195 10	HY	719	
5 3	2 56 47.6889	1	14 0 30.43	-18	45 21.4	4	9001	ORGAN PASS	3195 13	HY	720	

DATE Y M D	TIME (A-1)			RMS H M S			R.A.(1950.0) H M S			DECL.(1950.0) D M S			STATION	FRAME NO.	MS	OBS.NO.		
	H	M	S	H	M	S	H	M	S	D	M	S						
1961 5 16	42	22.0280	10	13	4	50.52	-19	38	35.2	4	9008	SHIRAZ	3061	11	LE	947		
5 16	43	39.5769	10	13	43	40.20	-10	53	31.1	4	9008	SHIRAZ	3061	16	LE	948		
5 18	43	54.9725	10	9	46	13.55	4	20	42.8	4	9008	SHIRAZ	3066	5	LE	949		
5 3	18	47	13.2222	10	11	18	10.88	36	16	36.1	4	9008	SHIRAZ	3066	14	LE	984	
5 3	20	52	55.4657	10	9	29	23.88	65	46	8.8	4	9008	SHIRAZ	3070	12	LE	1144	
5 3	20	54	4.4952	10	9	25	49.46	76	36	38.7	4	9008	SHIRAZ	3070	16	LE	1145	
5 4	2	34	17.9813	1	11	5	15.48	0	24	16.5	4	9010	JUPITER	3067	4	PG	987	
5 4	2	36	19.7417	1	12	30	19.92	20	38	42.6	4	9010	JUPITER	3067	13	PG	986	
5 4	2	37	54.5242	1	13	54	58.04	34	24	26.2	4	9010	JUPITER	3067	26	PG	985	
5 4	4	41	33.8539	1	9	40	4.45	64	43	35.8	4	9010	JUPITER	3071	11	NL	988	
5 4	6	27	34.4628	1	13	0	34.70	-	3	14	9.7	4	9012	MAUI	3554	5	CA	1100
5 4	6	28	49.5193	1	13	43	55.06	7	21	33.4	4	9012	MAUI	3554	17	SA	1099	
5 4	8	29	34.0327	1	8	57	37.35	26	45	51.4	4	9012	MAUI	3558	3	HY	1070	
5 4	8	31	48.2486	1	9	40	15.14	49	33	11.2	4	9012	MAUI	3558	10	HY	1069	
5 5	2	12	17.5375	1	12	57	13.80	21	38	47.1	4	9010	JUPITER	3087	11	PG	1126	
5 5	2	12	21.5360	1	13	0	33.84	22	14	38.3	4	9010	JUPITER	3087	13	PG	1125	
5 5	8	7	34.0918	1	9	55	2.57	52	27	46.9	4	9012	MAUI	3576	15	FR	697	
5 5	8	8	2.9069	1	10	13	51.41	57	29	33.9	4	9012	MAUI	3576	19	FR	696	
5 5	8	32	14.5522	1	23	2	17.57	67	5	3.9	4	9010	JUPITER	3099	3	BW	989	
5 5	8	32	18.5525	1	23	2	47.60	66	26	57.5	4	9010	JUPITER	3099	4	BW	990	
5 5	12	6	3.9692	10	13	45	36.72	23	45	10.9	4	9005	TOKYO	2995	18	PG	1113	
5 5	14	9	53.5976	10	11	13	16.07	62	3	39.6	4	9005	TOKYO	2999	5	TM	1112	
5 5	14	10	46.3118	3	12	23	53.39	70	55	51.2	4	9005	TOKYO	2999	13	TM	1111	
5 5	16	17	36.6970	10	20	45	16.05	77	21	13.5	4	9005	TOKYO	3003	14	PG	713	
5 5	16	17	46.2858	10	20	57	6.47	75	43	23.4	4	9005	TOKYO	3003	15	PG	712	
5 5	18	23	16.0079	10	20	3	28.01	50	44	10.2	4	9005	TOKYO	3009	10	PG	711	
5 5	23	40	53.4915	1	11	39	40.00	-15	13	52.9	4	9009	CURACAO	2682	9	MN	980	
5 5	23	41	46.6558	1	12	8	51.78	-6	41	9.8	4	9009	CURACAO	2682	14	MN	981	
5 5	3	46	41.4497	1	12	41	39.59	7	25	44.6	4	9001	ORGAN PASS	3200	12	SD	721	
5 5	3	51	9.9848	1	16	4	8.23	31	54	4.8	4	9001	ORGAN PASS	3200	32	SD	722	
5 5	7	39	21.2642	1	8	32	7.50	13	44	19.1	4	9012	MAUI	3583	6	SD	610	
5 5	7	40	39.8526	1	8	55	40.84	26	5	32.2	4	9012	MAUI	3583	17	SD	1071	
5 5	10	8	44.4608	1	22	28	17.44	33	41	40.9	4	9011	ORGAN PASS	3204	4	SY	723	
5 5	10	8	48.4606	1	22	29	8.25	33	7	14.8	4	9001	ORGAN PASS	3204	6	SY	724	
5 5	11	39	57.7782	10	12	24	42.54	8	10	16.6	4	9005	TOKYO	3014	4	PG	710	
5 5	11	40	29.3763	10	12	48	56.84	12	28	9.1	4	9005	TOKYO	3014	7	PG	709	
5 5	23	4	41.9222	1	6	1	43.43	11	0	13.3	4	9011	V.DOLORES	2742	4	SD	1043	
5 5	23	4	49.9219	1	6	4	43.43	11	43	51.9	4	9011	V.DOLORES	2742	5	SD	1042	
5 5	23	30	33.9562	1	9	9	12.03	15	11	18.9	4	9004	S.FERNANDO	3314	7	HY	867	
5 5	23	30	41.9561	1	9	10	30.91	15	56	27.4	4	9004	S.FERNANDO	3314	8	HY	868	
5 5	23	43	22.4125	1	20	43	15.33	42	9	5.49	4	9004	S.FERNANDO	3315	6	PG	869	
5 5	7	1	37	26.6924	1	10	1	31.25	42	32	41.0	4	9004	S.FERNANDO	3321	8	YK	871
5 5	7	1	37	34.6920	1	10	2	47.46	43	23	45.2	4	9004	S.FERNANDO	3321	9	YK	872
5 5	7	1	48	27.2101	1	22	0	39.19	33	37	9.4	4	9004	S.FERNANDO	3322	4	YK	873
5 5	7	1	49	7.2100	1	22	6	0.82	29	31	54.5	4	9004	S.FERNANDO	3322	9	YK	874

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DATE Y M D	TIME (A-1) H M S	RMS MS	R.A.(1950.0)			DECL.(1950.0)			STATION	FRAME NO.	MS	OBS. NO.
			H	M	S	D	M	S				
1961 5 7	7 16 33.0590	1	9	6	6.96	29	8	36.6	4	9012 MAUI	3596 4	PG 1072
	7 18 8.9457	1	9	58	38.47	47	0	15.1	4	9012 MAUI	3596 3	PG 1073
5 8	0 56 26.1761	1	11	23	12.94	- 8	20	51.9	4	9010 JUPITER	3138 3	BW 992
	0 57 41.3133	1	12	11	30.73	2	24	55.1	4	9010 JUPITER	3138 17	BW 991
5 8	3 2 42.0693	10	9	36	15.38	59	9	46.8	4	9010 JUPITER	3143 9	BW 994
5 8	3 2 50.0669	10	9	41	22.82	60	35	18.1	4	9010 JUPITER	3143 11	BW 993
5 8	9 24 1.9031	1	20	33	22.26	38	57	54.8	4	9010 JUPITER	3155 21	F1 995
5 8	10 50 46.7914	1	12	14	12.36	1	57	35.3	4	9005 TOKYO	3024 11	SD 708
5 8	10 50 56.3471	1	12	20	50.33	3	9	49.4	4	9005 TOKYO	3024 13	SD 707
5 8	12 55 33.3145	1	10	41	21.28	53	17	42.8	4	9005 TOKYO	3030 5	PG 1155
5 8	17 19 37.1536	1	20	52	25.32	43	13	16.0	4	9005 TOKYO	3040 12	PG 705
5 9	4 36 59.8062	1	10	5	31.33	47	38	38.1	4	9001 ORGAN PASS	3220 4	NL 726
5 9	4 38 34.2431	1	11	47	30.83	63	47	13.0	4	9001 ORGAN PASS	3220 14	NL 725
5 9	8 59 10.9832	1	20	25	53.44	44	22	12.2	4	9010 JUPITER	3177 14	SD 996
5 9	9 9 0 49.2696	1	21	24	55.76	26	0	9.6	4	9010 JUPITER	3177 21	SD 998
5 9	9 1 58.8058	1	21	52	41.67	14	32	49.5	4	9010 JUPITER	3177 26	SD 997
5 10	4 12 37.3698	1	10	17	23.02	48	22	44.4	4	9001 ORGAN PASS	3243 6	SD 727
5 10	4 13 16.8047	1	19	56	25.31	55	20	10.7	4	9001 ORGAN PASS	3243 13	SD 728
5 10	8 26 57.2823	1	21	5	44.95	68	26	58.9	4	9001 ORGAN PASS	3250 19	BW 729
5 11	1 47 28.2166	1	8	55	24.90	39	55	48.0	4	9010 JUPITER	3183 3	YN 1001
5 11	1 49 30.4392	1	10	33	20.17	61	40	22.7	4	9010 JUPITER	3183 18	YN 1000
5 11	1 51 25.8897	1	14	3	33.36	71	10	59.8	4	9010 JUPITER	3183 23	YN 999
5 11	3 46 49.8561	1	9	28	7.01	33	10	6.1	4	9001 ORGAN PASS	3259 4	BW 730
5 11	3 48 34.2015	1	10	52	24.31	51	56	0.1	4	9001 ORGAN PASS	3259 13	BW 731
5 11	7 44 58.7445	1	7	14	4.84	63	57	49.2	4	9012 MAUI	3613 9	NL 1074
5 11	12 5 12.7892	1	22	38	38.26	42	27	27.0	4	9012 MAUI	3616 21	KA 691
5 11	14 8 21.5791	1	20	22	4.16	34	12	22.4	4	9012 MAUI	3622 9	YN 1075
5 11	14 10 28.8813	1	21	30	35.14	10	44	23.0	4	9012 MAUI	3622 22	YN 1076
5 11	20 19 46.8684	1	23	44	12.87	23	7	6.8	4	9003 WOOMERA	5019 12	YK 823
5 11	20 20 21.5634	1	23	57	12.49	19	54	2.9	4	9003 WOOMERA	5019 20	SY 824
5 12	1 24 12.1483	10	9	55	41.76	52	44	50.4	4	9010 JUPITER	3201 9	SD 1002
5 12	1 24 16.1472	10	9	59	32.90	53	25	59.2	4	9010 JUPITER	3201 10	SD 1003
5 12	7 46 16.3126	1	21	2	24.44	39	52	4.8	4	9010 JUPITER	3214 4	NL 626
5 12	7 47 18.3545	1	21	24	4.06	29	6	28.8	4	9010 JUPITER	3214 11	NL 1104
5 12	9 59 27.5237	1	21	21	40.68	40	51	18.8	4	9007 AREQUIPA	3144 12	FR 650
5 12	10 2 39.5524	1	22	58	19.88	16	49	27.0	4	9007 AREQUIPA	3144 24	FR 651
5 12	19 54 55.5090	10	23	29	7.41	25	33	18.1	4	9003 WOOMERA	5025 12	HY 825
5 12	19 54 59.4286	10	23	30	31.26	25	12	20.4	4	9003 WOOMERA	5025 13	HY 826
5 13	3 47 46.4370	3	22	45	33.88	16	26	53.4	4	9002 OLFANTSFTN	3189 5	F1 788
5 13	3 48 27.6511	3	23	6	55.32	11	17	39.8	4	9002 OLFANTSFTN	3189 13	F1 789
5 13	5 12 39.7157	1	0	52	18.30	83	26	56.2	4	9010 JUPITER	3229 6	BW 1005
5 13	5 14 42.4971	1	22	3	58.77	69	4	34.4	4	9010 JUPITER	3229 18	BW 1004
5 13	7 18 33.7472	1	18	26	12.60	73	8	7.1	4	9010 JUPITER	3233 6	BW 1006
5 13	7 20 6.6680	1	20	15	7.80	58	14	3.0	4	9010 JUPITER	3233 13	BW 1007
5 13	7 21 30.4806	1	20	56	59.96	42	54	0.3	4	9010 JUPITER	3233 20	BW 1006

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DATE Y M D	TIME (A-1)			RMS H M S			R.A.(1950.0) H M S			DECL.(1950.0) D M S			STATION			FRAME NO.			MS OBS.NO.		
	H	M	S	H	M	S	H	M	S	D	M	S									
1961 5 13	7	26	16.3556	1	21	55	21.58	47	26	4.7	4	9009	CURACAO	2714	12	BW	635				
5 13	7	27	37.6504	1	22	16	33.29	34	55	34.9	4	9009	CURACAO	2714	19	BW	636				
5 13	9	25	29.0499	1	17	59	13.82	-3	56	16.9	4	9010	JUPITER	3241	4	FR	628				
5 13	9	27	49.1987	1	19	22	17.26	-22	2	25.6	4	9010	JUPITER	3241	16	FR	627				
5 13	9	34	57.7479	1	21	26	18.79	41	46	18.5	4	9007	AREQUIPA	3153	12	FR	902				
5 13	9	38	0.9880	1	22	53	27.87	19	17	59.8	4	9007	AREQUIPA	3153	21	FR	903				
5 13	10	52	46.2958	10	10	53	30.50	45	15	40.0	4	9005	TOKYO	3090	7	YK	1110				
5 13	12	58	15.7680	10	9	51	49.87	76	36	26.7	4	9005	TOKYO	3095	6	YK	706				
5 13	17	9	41.4879	10	16	38	4.27	34	37	10.9	4	9005	TOKYO	3104	6	PG	1120				
5 13	17	10	12.4805	10	17	10	26.27	30	44	35.6	4	9005	TOKYO	3104	9	PG	1121				
5 13	18	51	48.5035	10	7	11	25.27	72	22	13.4	4	9008	SHIRAZ	3251	12	HY	950				
5 13	18	53	12.2618	10	5	37	4.72	83	55	30.3	4	9008	SHIRAZ	3251	17	HY	951				
5 13	23	6	5.1738	10	18	17	17.19	37	53	41.8	4	9008	SHIRAZ	3259	13	HY	952				
5 13	23	6	9.1741	10	18	21	8.32	37	12	53.6	4	9008	SHIRAZ	3259	15	HY	953				
5 14	3	23	55.2828	3	23	3	26.78	13	5	47.1	4	9002	OLFANTSFTN	3196	15	FI	790				
5 14	3	23	59.3020	3	23	5	25.01	12	36	21.5	4	9002	OLFANTSFTN	3196	16	FI	791				
5 14	9	13	47.6341	1	22	57	53.27	18	13	4.8	4	9007	AREQUIPA	3165	3	FI	904				
5 14	9	14	3.6344	1	23	4	19.16	16	8	54.0	4	9007	AREQUIPA	3165	7	FI	905				
5 14	12	52	38.4244	1	19	8	53.44	61	28	13.2	4	9012	MAUI	3631	3	PG	1077				
5 14	12	53	56.8793	1	20	14	9.47	48	9	28.4	4	9012	MAUI	3631	10	PG	1078				
5 14	12	54	58.9634	1	20	47	11.85	36	34	19.5	4	9012	MAUI	3631	20	PG	1079				
5 14	20	35	29.8829	10	20	55	45.16	76	32	20.2	4	9008	SHIRAZ	3269	18	NL	955				
5 14	22	40	57.2671	10	17	46	1.00	46	42	7.1	4	9008	SHIRAZ	3276	14	NL	1140				
5 14	22	45	9.6525	10	20	31	39.60	4	12	31.1	4	9008	SHIRAZ	3276	40	SY	1141				
5 14	0	30	20.9810	1	15	47	23.86	76	29	19.2	4	9004	S.FERNANDO	3339	4	NL	875				
5 14	0	30	48.0655	1	17	7	26.54	73	53	19.2	4	9004	S.FERNANDO	3339	14	NL	876				
5 15	0	30	48.0655	1	6	57	19.93	61	13	44.3	4	9010	JUPITER	3254	5	FR	620				
5 15	2	14	32.9340	1	6	56	9.38	74	24	22.9	4	9010	JUPITER	3254	19	FR	619				
5 15	2	16	0.5576	1	20	17	47.45	60	53	22.3	4	9010	JUPITER	3262	8	FR	1010				
5 15	6	30	46.2705	1	20	21	40.30	59	28	14.9	4	9010	JUPITER	3262	10	FR	1009				
5 15	6	30	54.2690	1	18	7	33.61	47	17	28.1	4	9008	SHIRAZ	3296	20	SD	659				
5 15	20	10	15.7880	10	21	3	56.61	81	55	38.7	4	9008	SHIRAZ	3293	12	SD	657				
5 15	20	10	27.7887	10	20	59	16.97	80	2	21.5	4	9008	SHIRAZ	3293	15	SD	658				
5 15	20	45	37.1534	1	22	17	49.71	-3	9	27.5	4	9003	WOMERA	5050	7	HY	827				
5 15	20	46	5.6472	1	22	36	38.25	-7	1	56.3	4	9003	WOMERA	5050	13	HY	828				
5 15	22	16	37.9318	10	18	7	33.61	47	17	28.1	4	9008	SHIRAZ	3296	20	SD	659				
5 16	0	20	59.9925	10	16	30	43.91	-9	47	8.0	4	9008	SHIRAZ	3303	10	KA	956				
5 16	0	21	7.9831	10	16	34	42.95	-10	41	55.8	4	9008	SHIRAZ	3303	12	KA	957				
5 16	1	50	10.6145	1	6	52	5.34	63	41	24.1	4	9010	JUPITER	3275	5	HY	1012				
5 16	1	52	20.5043	1	7	1	15.84	83	39	15.6	4	9010	JUPITER	3275	16	HY	1011				
5 16	2	11	46.3287	1	16	54	55.32	27	15	2.6	4	9004	S.FERNANDO	3345	5	CA	668				
5 16	2	12	10.3287	1	17	17	11.67	23	44	25.2	4	9004	S.FERNANDO	3345	17	CA	669				
5 16	3	58	3.5218	1	2	44	38.15	83	27	34.2	4	9010	JUPITER	3281	5	BK	1013				
5 16	3	58	19.5243	1	1	29	39.74	83	30	0.4	4	9010	JUPITER	3281	7	BK	1014				
5 16	6	4	28.2739	1	18	56	53.14	78	3	7.5	4	9010	JUPITER	3285	5	AY	624				
5 16	6	6	7.6702	1	20	18	27.05	61	33	47.2	4	9010	JUPITER	3285	16	AY	625				

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DATE Y M D	TIME (A-1)			RMS			RMS			DECL.(1950.0)			RMS			STATION	FRAME NO.	MS	OBS. NO.
	H	M	S	MS	H	M	S	D	M	S	D	M	S	D	M	S			
1961	5 16	6 7	39.1204	1	20	45	16.19	45	54	58.0	4	9010	JUPITER	3285	22	AY	611		
	5 16	17 37	35.1488	10	6 45	40.91	70 30	31.4	4	9008	SHIRAZ	3310	11	PB	958				
	5 16	20 21	8.7126	1	22	19	20.32	-1	2	23.4	4	9003	WOMERA	5061	3	FI	829		
	5 16	20 21	37.4647	1	22	37	44.66	-4	49	3.5	4	9003	WOMERA	5061	9	FI	830		
	5 16	21 51	51.5426	10	18 0	46.10	51 53	44.8	4	9008	SHIRAZ	3317	13	PB	960				
	5 16	21 55	24.1659	10	20 11	9.19	14	9	52.5	4	9008	SHIRAZ	3317	19	PB	961			
	5 16	23 56	4.8627	10	16 10	51.17	-5 17	29.2	4	9008	SHIRAZ	3322	10	PB	962				
	5 16	23 58	31.0116	10	17 27	52.05	-22 17	23.4	4	9008	SHIRAZ	3322	23	PB	963				
	5 17	3 49	33.8555	1	15 19	37.64	-4 7	6.7	4	9004	S.FERNANDO	3365	4	BW	879				
	5 17	3 49	53.8555	1	15 28	47.80	-5 54	26.5	4	9004	S.FERNANDO	3365	9	BW	880				
	5 17	11 38	23.5327	1	19 22	10.08	68 55	43.4	4	9012	MAUI	3652	5	SD	1081				
	5 17	11 41	18.2588	1	20 46	56.21	39 25	36.5	4	9012	MAUI	3652	25	SD	1080				
	5 17	13 42	40.2593	1	15 54	20.75	14 45	26.6	4	9012	MAUI	3657	4	YK	679				
	5 17	19 55	52.3541	1	21 50	55.53	7 2	57.6	4	9003	WOMERA	5071	3	SY	891				
	5 17	19 58	25.3138	1	23 25	0.34	-11 45	51.8	4	9003	WOMERA	5071	13	SY	832				
	5 17	21 26	58.7866	10	17 47	4.44	57 8	44.5	4	9008	SHIRAZ	3336	13	YK	964				
	5 17	21 29	51.5680	10	19 46	20.56	25 27	56.9	4	9008	SHIRAZ	3336	33	YK	965				
	5 17	23 32	41.6893	10	16 42	6.80	-11 42	10.5	4	9008	SHIRAZ	3341	9	BK	966				
	5 17	23 33	11.7291	10	16 58	51.88	-15 21	28.0	4	9008	SHIRAZ	3341	15	BK	967				
	5 18	1 0	11.9943	1	6 36	55.81	56 59	35.6	4	9010	JUPITER	3310	4	BK	1017				
	5 18	1 3	8.0504	1	8 30	3.43	84 34	54.2	4	9010	JUPITER	3310	19	BK	1016				
	5 18	1 5	8.8351	1	17 55	44.36	77 25	39.1	4	9010	JUPITER	3310	25	BK	1015				
	5 18	1 22	23.6761	1	16 35	37.83	36 8	39.8	4	9004	S.FERNANDO	3378	5	SY	883				
	5 18	1 22	31.6761	1	16 44	3.24	34 57	42.5	4	9004	S.FERNANDO	3378	9	SY	884				
	5 18	3 8	35.2587	1	2 38	5.14	83 9	52.1	4	9010	JUPITER	3316	8	BK	623				
	5 18	3 8	51.2573	1	1 26	3.66	83 28	10.7	4	9010	JUPITER	3316	10	BK	622				
	5 18	3 26	22.3963	1	15 46	20.60	-10 9	59.4	4	9004	S.FERNANDO	3384	4	FR	885				
	5 18	3 51	25.2970	1	22 12	0.01	-43 15	25.2	4	9002	OLFANTSFTN	3232	2	SY	1107				
	5 18	3 51	33.3279	1	22 20	2.00	-44 13	49.9	4	9002	OLFANTSFTN	3232	4	SY	1106				
	5 18	5 16	33.3525	1	20 11	22.42	65 15	8.4	4	9010	JUPITER	3320	14	BK	1019				
	5 18	5 18	59.3245	1	20 36	55.39	41 59	24.9	4	9010	JUPITER	3320	28	BK	1018				
	5 18	9 44	45.5454	1	22 22	7.87	-14 41	52.0	4	9011	V.DOLORES	2780	11	BK	1046				
	5 18	9 45	27.5537	1	22 53	43.92	-20 3	2.0	4	9011	V.DOLORES	2780	16	BK	1045				
	5 18	11 13	21.7599	1	19 13	1.65	73 6	56.9	4	9012	MAUI	3669	13	YK	618				
	5 18	11 15	2.0625	1	20 14	20.60	57 6	26.8	4	9012	MAUI	3669	25	YK	617				
	5 18	18 57	34.6765	10	20 25	54.39	69 44	32.8	4	9008	SHIRAZ	3353	5	BK	968				
	5 18	18 57	38.6765	10	20 25	15.67	69 9	14.6	4	9008	SHIRAZ	3353	6	BK	969				
	5 18	20 50	28.1230	1	18 10	57.24	52 44	15.4	4	9004	S.FERNANDO	3388	3	SY	886				
	5 18	20 51	18.3218	1	18 24	31.24	47 14	18.8	4	9004	S.FERNANDO	3388	13	SY	887				
	5 18	21 4	46.1224	10	19 31	25.60	32 36	36.2	4	9008	SHIRAZ	3357	3	YK	970				
	5 18	21 4	54.1227	10	19 34	39.12	31 11	56.1	4	9008	SHIRAZ	3357	5	YK	971				
	5 19	4 51	20.5023	1	20 2	35.81	70 58	54.9	4	9010	JUPITER	3343	2	BK	1020				
	5 19	4 53	44.6033	1	20 23	49.23	48 7	15.2	4	9010	JUPITER	3343	23	BK	1021				
	5 19	10 49	7.0176	1	19 43	37.12	69 57	9.4	4	9012	MAUI	3684	6	FR	1082				
	5 19	10 50	18.8902	1	20 13	7.02	58 27	41.3	4	9012	MAUI	3684	17	FR	1083				

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DATE Y M D	TIME (A-1)			RMS			DECL.(1950.0)			RMS			STATION	FRAME NO.	MS	OBS. NO.
	H	M	S	H	M	S	D	M	S	D	M	S				
1961 5 19	18 31 55.1406	10	20 39 18.89	78 25 11.0	4	9008 SHIRAZ	3374 3	LE -	972							
5 19	18 32 42.3927	10	20 17 31.42	71 34 36.6	4	9008 SHIRAZ	3374 12	SY	973							
5 19	19 6 37.7559	1	21 40 8.51	12 22 13.2	4	9003 WOOMERA	5090 2	SY	833							
5 19	19 8 7.3245	1	22 29 25.11	1 44 14.9	4	9003 WOOMERA	5090 16	SY	834							
5 21	2 36 24.9545	1	21 12 45.29	-21 2 54.0	4	9002 OLFANTSFTN	3252 4	SY	792							
5 21	2 36 59.4256	1	21 40 10.33	-26 8 22.4	4	9002 OLFANTSFTN	3252 10	SY	793							
5 21	4 3 30.4296	1	20 2 1.60	57 29 40.2	4	9010 JUPITER	3268 5	BK	1022							
5 21	8 25 45.9793	1	19 15 53.59	29 5 9.1	4	9011 V.DOLORES	2792 7	KI	1051							
5 21	8 27 55.1989	1	20 18 32.85	17 27 49.9	4	9011 V.DOLORES	2792 15	KI	1050							
5 21	8 29 44.8480	1	21 20 54.72	4 32 52.2	4	9011 V.DOLORES	2792 27	KI	1049							
5 21	8 31 34.2092	1	22 29 19.07	-9 0 9.4	4	9011 V.DOLORES	2792 39	KI	1048							
5 21	8 33 34.0606	1	23 44 29.90	-20 36 37.6	4	9011 V.DOLORES	2792 51	KI	1047							
5 21	18 17 13.3175	1	21 21 32.96	17 54 58.8	4	9003 WOOMERA	5101 6	HY	835							
5 21	18 18 31.5993	1	22 0 14.29	9 14 12.4	4	9003 WOOMERA	5101 21	HY	836							
5 21	19 48 54.0339	10	18 26 6.00	59 21 48.9	4	9008 SHIRAZ	3422 11	NL	974							
5 21	20 21 23.5889	1	19 18 25.73	-28 21 22.6	4	9003 WOOMERA	5105 3	SD	837							
5 22	3 39 57.7840	1	19 55 5.37	48 29 12.9	4	9010 JUPITER	3286 4	LE	1023							
5 22	8 3 29.8257	1	20 20 43.97	18 40 14.0	4	9011 V.DOLORES	2798 3	PG	1052							
5 22	8 4 49.8522	1	21 4 52.70	9 33 23.4	4	9011 V.DOLORES	2798 10	PG	1053							
5 22	8 5 52.5188	1	21 41 26.55	1 54 13.1	4	9011 V.DOLORES	2798 16	PG	1054							
5 22	8 7 0.7805	1	22 22 16.62	-6 11 40.5	4	9011 V.DOLORES	2798 25	PG	1055							
5 22	8 8 2.4225	1	22 58 59.64	-12 40 13.6	4	9011 V.DOLORES	2798 32	PG	1056							
5 22	9 33 55.6152	1	19 48 9.01	80 39 4.2	4	9012 MAUI	3699 4	HY	682							
5 22	9 35 46.2405	1	20 1 46.80	64 45 49.7	4	9012 MAUI	3699 11	HY	683							
5 22	10 8 23.6240	1	18 37 1.14	-30 29 34.3	4	9011 V.DOLORES	2802 10	SD	1060							
5 22	10 9 30.6311	1	19 9 29.88	-41 41 53.1	4	9011 V.DOLORES	2802 18	SD	1059							
5 22	10 10 52.1490	1	20 12 15.88	-55 28 3.7	4	9011 V.DOLORES	2802 29	SD	1057							
5 22	10 12 23.0999	1	22 20 38.49	-66 26 13.7	4	9011 V.DOLORES	2802 37	SD	1058							
5 23	1 18 41.1446	1	11 58 22.71	22 42 34.8	4	9004 S.FERNANDO	3460 6	F1	888							
5 23	1 19 10.1490	1	12 13 34.28	21 37 55.1	4	9004 S.FERNANDO	3460 12	F1	889							
5 23	1 45 57.0091	1	20 18 33.23	-1 14 58.9	4	9002 OLFANTSFTN	3262 5	NL	794							
5 23	1 48 11.8995	1	21 53 5.59	-20 55 41.0	4	9002 OLFANTSFTN	3262 22	NL	795							
5 23	3 13 37.2490	1	19 44 13.23	62 57 28.8	4	9010 JUPITER	3405 14	LE	1024							
5 23	3 51 6.2525	1	17 53 14.32	-52 1 13.0	4	9002 OLFANTSFTN	3265 6	SD	796							
5 23	3 52 3.9620	1	18 35 32.60	-66 10 43.3	4	9002 OLFANTSFTN	3265 25	SD	797							
5 23	5 16 11.5479	1	14 19 37.48	62 21 35.7	4	9010 JUPITER	3410 10	GN	1026							
5 23	5 16 15.5483	1	14 26 4.69	62 8 25.2	4	9010 JUPITER	3410 11	GN	1025							
5 23	9 10 38.6610	1	19 58 0.91	68 47 56.0	4	9012 MAUI	3718 3	YN	1085							
5 23	9 12 12.5986	1	20 1 31.54	55 23 50.8	4	9012 MAUI	3718 17	YN	1084							
5 23	18 58 11.7503	10	17 10 27.29	75 49 19.4	4	9008 SHIRAZ	3458 12	LE	975							
5 23	18 58 15.7504	10	17 16 44.42	75 11 59.8	4	9008 SHIRAZ	3458 13	LE	976							
5 23	19 33 29.4462	10	20 16 6.39	-36 11 15.0	4	9003 WOOMERA	5119 3	SY	839							
5 23	19 34 46.0457	10	21 33 54.02	-46 47 20.4	4	9003 WOOMERA	5119 13	SY	840							
5 23	20 53 43.8471	1	18 23 56.02	-37 13 59.7	4	9004 S.FERNANDO	3463 4	SD	890							
5 23	20 53 55.8476	1	18 25 37.94	35 57 28.6	4	9004 S.FERNANDO	3463 7	SD	891							

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23 May - 3 June 1961

DATE Y M D	TIME (A-1)			RMS			R.A.(1950.0)			DECL.(1950.0)			STATION			FRAME NO.		MS	OBS.NO.
	H	M	S	H	M	S	D	M	S	D	M	S	WOMERA	V.DOLORES	TOKYO	AREQUIPA	3218	GN	
1961 5 23-	22 52	32.7346	1	12 31	3.229	65 53	3.2	4	9004	S.FERNANDO	3469	4	NL	1102					
	22 53	2.7345	1	13 33	51.85	65 23	13.6	4	9004	S.FERNANDO	3469	19	NL	1103					
5 23	1 25	2.0211	1	22 44	47.27	-25 50	35.2	4	9002	OLFANTSFTN	3271	6	HY	798					
5 24	1 25	10.681	1	22 49	58.66	-26 30	29.0	4	9002	OLFANTSFTN	3271	8	HY	799					
5 24	3 27	36.1359	1	18 26	19.54	-62 39	47.0	4	9002	OLFANTSFTN	3276	5	YN	800					
5 24	3 27	40.1564	1	18 29	8.24	-63 18	28.0	4	9002	OLFANTSFTN	3276	6	YN	801					
5 24	19 8	27.2038	1	19 55	6.40	-28 39	50.7	4	9003	WOMERA	5124	9	SY	841					
5 24	19 9	1.8902	1	20 24	48.65	-34 11	12.1	4	9003	WOMERA	5124	16	SY	842					
5 25	1 1	20.6625	1	25 5	31.35	-26 15	2.6	4	9002	OLFANTSFTN	3281	7	PG	802					
5 25	1 1	24.6802	1	23 7	46.77	-26 30	44.3	4	9002	OLFANTSFTN	3281	8	PG	803					
5 25	8 53	57.7217	1	18 40	53.23	-68 26	54.1	4	9007	AREQUIPA	3218	3	GN	908					
5 25	8 54	13.7252	1	18 59	10.71	-70 19	55.9	4	9007	AREQUIPA	3218	7	LE	909					
5 25	8 55	33.4878	10	19 2	49.40	-34 31	53.1	4	9011	V.DOLORES	2809	13	PG	633					
5 25	8 57	43.8988	1	21 11	44.92	-54 16	36.5	4	9011	V.DOLORES	2809	30	PG	629					
5 25	8 59	17.4044	1	23 24	35.59	-59 26	51.7	4	9011	V.DOLORES	2809	41	PG	630					
5 25	22 4	12.8478	1	14 17	26.75	68 1	3.3	4	9004	S.FERNANDO	3481	6	PG	892					
5 25	22 4	44.8479	1	15 17	36.37	64 3	37.6	4	9004	S.FERNANDO	3481	22	PG	893					
5 26	2 39	2.0171	1	19 22	56.46	-67 11	54.4	4	9002	OLFANTSFTN	3292	3	PG	804					
5 26	2 39	18.0356	1	19 45	46.09	-69 13	46.2	4	9002	OLFANTSFTN	3292	7	PG	805					
5 27	11 24	28.4165	1	15 8	39.483	74 0	50.90	4	9005	TOKYO	3214	6	MH	4020					
5 27	20 0	33.2582	1	18 18	48.26	-70 7	39.2	4	9003	WOMERA	5138	20	YN	843					
5 27	20 1	35.6411	1	20 5	45.63	-78 42	51.9	4	9003	WOMERA	5138	24	YN	844					
5 28	9 46	39.6396	1	17 8	40.58	-57 48	50.6	4	9011	V.DOLORES	2814	5	HY	1062					
5 28	9 48	26.9501	1	18 6	56.25	-74 56	21.6	4	9011	V.DOLORES	2814	16	HY	1061					
5 29	12 39	56.3433	1	13 28	0.25	39 59	33.3	4	9005	TOKYO	3251	4	PB	1108					
5 27	12 40	50.4620	1	14 26	41.93	32 41	3.9	4	9005	TOKYO	3251	20	PB	1129					
5 29	19 12	33.6670	1	21 14	1.04	-77 22	32.0	4	9003	WOMERA	5149	17	LE	847					
5 29	19 12	39.6498	1	21 32	43.73	-77 36	11.4	4	9003	WOMERA	5149	20	LE	846					
5 30	8 23	54.5403	1	17 10	33.53	53 26	24.0	4	9012	MAUI	3773	17	BK	1086					
5 30	8 24	10.5413	1	17 19	37.69	50 33	42.7	4	9012	MAUI	3773	21	BK	1087					
5 30	18 48	30.8856	10	22 56	23.80	-75 31	44.5	4	9003	WOMERA	5155	9	F1	848					
5 31	2 2	3.0689	1	17 36	15.75	50 50	56.0	4	9010	JUPITER	3457	5	MN	1027					
5 31	2 2	46.2625	1	17 45	52.80	43 47	16.2	4	9010	JUPITER	3457	14	MN	1028					
5 31	8 35	2.4618	1	19 31	3.24	-78 10	6.4	4	9011	V.DOLORES	2827	8	PB	631					
5 31	8 35	57.3359	1	22 54	42.75	-80 16	53.4	4	9011	V.DOLORES	2827	16	PB	634					
5 31	20 28	34.0089	1	11 37	46.64	-89 38	22.3	4	9003	WOMERA	5165	22	CL	1105					
6 1	8 11	7.3523	1	22 7	3.491	-78 54	26.99	4	9011	VILLA DOLO	2831	9	F1	1844					
6 1	8 12	8.8690	1	0 49	43.925	-74 45	8.70	4	9011	VILLA DOLO	2831	18	F1	2279					
6 1	10 16	36.2388	1	4 13	25.391	-85 25	36.61	4	9011	VILLA DOLO	2835	6	SD	1755					
6 1	10 17	13.4599	1	4 26	38.694	-79 53	5.17	4	9011	VILLA DOLO	2835	13	SD	1756					
6 1	21 16	19.2727	1	12 28	32.41	44 15	12.81	4	9004	SAN FERNAN	3489	7	AY	7168					
6 2	3 17	7.1727	1	14 41	19.363	18 56	8.81	4	9010	JUPITER	3487	12	SV	1841					
6 2	3 17	11.1729	1	14 44	26.292	18 13	29.04	4	9010	JUPITER	3487	13	SV	2277					
6 3	2 50	32.1499	1	12 50	54.115	41 47	12.88	4	9010	JUPITER	3498	4	AY	7278					
6 3	19 13	38.4224	10	15 53	17.06	-82 35	25.28	4	9003	WOMERA	5183	5	FR	7120					

DATE Y M D	TIME (A-1)			RMS			R.A.(1950.0)			DECL.(1950.0)			RMS			STATION	FRAME NO.	MS	OBS. NO.
	H	M	S	MS	H	M	S	D	M	S	D	M	S	D	M	S			
1961 6 3 19 13 46.4215	10	15	57	48.20	-83	48	48.67	4	9003	WOOMERA	5183	7	FR	7121					
6 4 2 26 56.1676	1	13	53	37.649	37	32	25.40	4	9010	JUPITER	3507	8	F1	2790					
6 4 2 28 6.4413	1	14	53	16.094	24	53	36.86	4	9010	JUPITER	3507	17	F1	1843					
6 4 6 20 46.5808	1	17	12	20.570	56	34	40.98	4	9012	MAUI	3827	13	AY	7301					
6 4 6 23 41.3535	1	17	39	43.013	30	55	53.11	4	9012	MAUI	3827	28	AY	7302					
6 4 18 51 5.6789	1	3	5	22.902	-78	1	37.30	4	9003	WOOMERA	5189	12	HY	1743					
6 4 22 5 59.9178	1	11	17	24.150	5	53	15.26	4	9004	SAN FERNAN	3509	11	SD	1748					
6 4 22 6 5.9178	1	11	20	53.203	5	19	1.04	4	9004	SAN FERNAN	3509	14	SD	1749					
6 5 1 59 33.6812	1	10	33	56.345	57	4	24.10	4	9010	JUPITER	3522	2	AY	7279					
6 5 17 48 54.3168	10	13	8	48.228	3	35	46.27	4	9008	SHIRAZ	3696	5	SD	1752					
6 5 17 48 58.3172	10	13	11	37.126	3	0	10.28	4	9008	SHIRAZ	3696	7	SD	1753					
6 5 20 31 10.6897	1	3	33	55.50	-80	18	47.81	4	9003	WOOMERA	5202	6	HY	7122					
6 5 21 41 51.9078	1	11	21	17.25	5	51	55.70	4	9004	SAN FERNAN	3518	10	AY	7118					
6 5 21 42 19.9079	1	11	38	43.18	2	55	54.90	4	9004	SAN FERNAN	3518	24	AY	7119					
6 6 2 20 43.7727	1	5	33	2.010	-79	15	18.06	4	9002	OLIFANTS	3327	4	AY	7706					
6 6 11 28 21.8255	3	12	25	36.388	4	32	24.96	4	9005	TOKYO	3319	8	AY	3563					
6 6 20 5 37.8889	1	2	41	22.016	-87	58	15.25	4	9003	WOOMERA	5207	9	HY	9229					
6 6 20 5 45.8955	1	3	5	12.653	-86	47	26.99	4	9003	WOOMERA	5207	11	HY	9230					
6 6 7 1 12 55.5783	1	13	53	50.583	49	38	29.34	4	9010	JUPITER	3548	18	KA	7280					
6 6 7 1 13 21.0138	1	14	17	16.907	45	8	41.03	4	9010	JUPITER	3548	23	KA	7281					
6 6 7 7 11 51.3910	1	14	10	31.296	25	48	47.22	4	9012	MAUI	3860	10	SD	7303					
6 6 7 7 11 2 45.7708	3	11	32	52.684	15	27	44.14	4	9012	MAUI	3860	14	SD	7304					
6 6 7 11 2 53.7722	3	11	39	11.137	14	30	3.77	4	9005	TOKYO	3327	12	KA	7130					
6 6 7 19 41 34.4144	1	3	31	42.79	-82	11	7.91	4	9003	WOOMERA	5218	3	SY	7124					
6 6 7 19 43 19.0429	1	3	38	39.16	-66	45	39.04	4	9003	WOOMERA	5218	9	SY	7125					
6 6 8 19 16 31.5071	1	3	38	27.811	-85	16	19.77	4	9003	WOOMERA	5227	10	HY	1744					
6 6 8 19 16 39.4976	1	3	33	59.333	-84	4	47.58	4	9003	WOOMERA	5227	12	HY	1745					
6 6 9 18 53 44.2683	1	3	15	10.06	-68	30	39.69	4	9003	WOOMERA	5236	10	FI	7126					
6 6 9 18 53 52.2712	1	3	15	15.695	-67	23	43.94	4	9003	WOOMERA	5236	11	FI	8880					
6 6 10 17 49 18.0374	10	11	11	7.114	-17	9	18.00	4	9008	SHIRAZ	3759	24	AY	7276					
6 6 10 17 49 26.0379	10	11	14	19.866	-17	58	22.69	4	9008	SHIRAZ	3759	26	AY	7277					
6 6 11 7 35 53.6062	1	10	51	22.325	-3	30	51.93	4	9012	MAUI	3900	19	KA	7305					
6 6 11 7 37 42.9209	1	11	40	7.091	-17	27	57.36	4	9012	MAUI	3892	10	SD	7306					
6 6 11 20 7 46.2888	1	23	34	35.80	-75	56	5.12	4	9003	WOOMERA	5257	5	SY	7127					
6 6 11 20 7 54.2916	3	23	52	50.311	-75	3	55.90	4	9003	WOOMERA	5257	7	SY	7711					
6 6 12 7 12 50.8094	1	11	25	53.633	-13	2	27.33	4	9012	MAUI	3900	7	KA	7353					
6 6 12 7 13 44.5182	1	11	52	34.412	-20	21	3.37	4	9012	MAUI	3900	19	KA	7354					
6 6 12 17 2 18.6363	10	11	50	37.731	-27	52	36.61	4	9008	SHIRAZ	3783	8	AY	1838					
6 6 13 3 40 6.2831	1	1	59	11.58	-58	5	59.44	4	9002	OLIFANTS	3403	4	AY	7103					
6 6 13 3 40 54.6489	10	10	52	6.526	-14	34	40.02	4	9008	SHIRAZ	3791	13	MJ	1839					
6 6 13 16 35 54.6489	10	10	52	6.526	-14	34	40.02	4	9008	SHIRAZ	3791	16	MJ	1840					

Satellite 1960 z2

13-20 June 1961

DATE Y M D	TIME (A-1)			RMS			R.A.(1950.0)			DEC.(1950.0)			RMS			STATION	FRAME NO.	MS	OBS.NO.
	H	M	S	H	M	S	D	M	S	D	M	S	D	M	S				
1961 6 13	19	21	1.5684	1	2	8	36.94	-53	46	44.29	4	9003	WOOMERA	5279	19	AY	7128		
6 13	19	21	9.5481	1	2	11	8.20	-52	30	14.80	4	9003	WOOMERA	5279	21	AY	7129		
6 14	9	12	22.0775	1	2	39	29.903	-14	58	4.00	4	9011	VILLA DOLO	2857	13	AY	7290		
6 14	9	12	38.0822	1	2	42	30.573	-13	18	18.64	4	9011	VILLA DOLO	2857	15	AY	7291		
6 15	0	11	43.0598	3	15	46	53.21	40	20	9.53	4	9007	AREQUIPA	3391	5	HY	7132		
6 15	0	11	59.0595	3	15	53	8.81	38	34	55.47	4	9007	AREQUIPA	3391	9	HY	7133		
6 15	2	51	45.6725	1	2	23	29.37	-50	7	40.52	4	9002	OLIFANTS	3434	4	AY	7107		
6 15	2	51	53.6924	1	2	23	38.83	-48	52	6.48	4	9002	OLIFANTS	3434	6	AY	7108		
6 15	17	56	20.1311	1	15	14	28.17	40	47	4.92	4	9002	OLIFANTS	3446	5	KA	7109		
6 15	17	56	32.1516	1	15	19	44.539	39	44	7.69	4	9002	OLIFANTS	3446	1	KA	254		
6 16	2	27	33.2077	1	2	23	2.58	-46	38	20.59	4	9002	OLIFANTS	3456	5	YK	7111		
6 16	2	27	37.2242	1	2	23	50.18	-46	2	25.75	4	9002	OLIFANTS	3456	6	YK	7112		
6 16	8	16	43.8146	1	23	16	46.032	-73	29	4.64	4	9011	VILLA DOLO	2882	4	FI	1846		
6 16	8	19	0.4328	1	1	19	45.557	-51	24	36.27	4	9011	VILLA DOLO	2882	16	FI	1847		
6 16	8	20	31.5937	1	1	49	26.718	-37	1	10.88	4	9011	VILLA DOLO	2882	24	FI	1848		
6 16	10	21	58.3544	1	21	54	53.818	-22	5	6.34	4	9011	VILLA DOLO	2889	32	PB	7292		
6 16	10	23	4.8393	1	22	45	15.011	-13	34	47.65	4	9011	VILLA DOLO	2889	40	PB	7293		
6 16	17	32	22.4145	1	15	25	11.241	38	13	52.61	4	9002	OLIFANTS	3462	5	FI	1834		
6 16	20	12	11.9830	1	0	7	37.011	-23	16	49.88	4	9003	WOOMERA	5299	24	PB	7413		
6 16	20	12	23.9545	1	0	15	14.908	-21	20	42.79	4	9003	WOOMERA	5299	27	PB	7414		
6 17	1	23	39.5907	3	11	30	12.450	27	37	48.47	4	9007	AREQUIPA	3419	4	HY	7423		
6 17	1	24	55.0733	3	12	0	53.145	20	35	29.58	4	9007	AREQUIPA	3419	11	HY	7424		
6 17	2	3	25.9357	1	2	21	43.22	-42	39	44.85	4	9002	OLIFANTS	3469	4	KA	7113		
6 17	2	3	33.9767	1	2	22	53.818	-41	32	48.67	4	9002	OLIFANTS	3469	6	KA	7708		
6 17	7	53	46.9827	1	1	0	52.353	-57	57	4.05	4	9011	VILLA DOLO	2896	3	SY	7294		
6 17	7	54	40.4567	1	1	22	13.938	-49	5	21.95	4	9011	VILLA DOLO	2896	13	SY	7295		
6 17	7	56	49.6415	1	1	53	22.655	-30	21	37.01	4	9011	VILLA DOLO	2896	21	SY	7296		
6 17	9	55	4.7956	1	19	52	27.741	-37	7	42.64	4	9011	VILLA DOLO	2904	5	HY	7297		
6 17	9	56	45.5151	1	21	18	26.014	-29	51	25.52	4	9011	VILLA DOLO	2904	11	HY	7298		
6 17	9	58	6.3829	1	22	25	32.769	-20	4	53.05	4	9011	VILLA DOLO	2904	17	HY	7716		
6 17	9	59	37.4404	1	23	30	20.819	-7	11	33.83	4	9011	VILLA DOLO	2904	28	HY	7299		
6 17	17	9	16.6224	1	15	52	38.96	30	30	52.32	4	9002	OLIFANTS	3478	3	YK	7115		
6 17	17	9	24.6437	1	15	55	37.22	29	43	36.82	4	9002	OLIFANTS	3478	5	YK	7116		
6 18	1	0	13.2572	3	11	57	6.646	24	55	2.65	4	9007	AREQUIPA	3428	5	FR	7441		
6 18	1	39	2.8346	1	2	15	30.238	-41	7	33.96	4	9002	OLIFANTS	3484	4	SD	255		
6 18	1	39	14.8847	1	2	16	55.024	-39	32	49.57	4	9002	OLIFANTS	3484	7	SD	7410		
6 18	9	33	58.3587	1	22	45	24.286	-19	35	6.77	4	9011	VILLA DOLO	2913	3	YK	7343		
6 18	9	34	54.1856	1	23	24	44.226	-11	18	20.32	4	9011	VILLA DOLO	2913	9	YK	7344		
6 18	9	35	32.1571	3	1	56	18.264	-48	59	46.14	4	9007	AREQUIPA	3437	2	F1	7425		
6 18	9	35	36.1580	3	1	57	42.937	-48	22	25.58	4	9007	AREQUIPA	3437	3	F1	7426		
6 19	0	36	9.9698	3	12	13	24.567	25	3	59.29	4	9007	AREQUIPA	3445	4	SD	7713		
6 19	0	36	21.9768	3	12	19	42.445	23	40	57.63	4	9007	AREQUIPA	3445	7	SD	7443		
6 19	10	30	32.9452	10	14	59	28.688	23	55	43.82	4	9003	WOOMERA	5312	25	SD	2222		
6 19	10	30	36.9483	10	15	1	32.157	23	30	57.04	4	9003	WOOMERA	5312	26	SD	2273		
6 20	8	43	3.8031	1	21	10	20.285	-40	43	51.77	4	9011	VILLA DOLO	2930	6	F1	7345		

DATE Y M D	TIME (A-1)			R-Ae (1950.0)			DECL.(1950.0)			RMS			STATION	FRAME NO.	MS	OBS. NO.
	H	M	S	H	M	S	D	H	M	S						
1961	6 20	8 44	15.7834	1	22 19	46.049	-31 2	43.63	4	9011	VILLA DOLO	2930 15	FI	8393		
	6 20	23 54	48.4057	1	15 16	58.732	9 28	37.17	4	9011	VILLA DOLO	2937 16	YK	7309		
	6 21	8 19	52.6807	1	22 31	20.239	-32 16	51.15	4	9011	VILLA DOLO	2942 5	HY	7282		
	6 21	8 22	4.9998	1	23 55	28.615	-11 18	46.65	4	9011	VILLA DOLO	2942 22	HY	7283		
	6 21	9 43	9.8855	1	15 37	12.442	15 44	46.65	4	9003	WQOMERA	5326 5	PB	7415		
	6 21	9 43	21.8859	1	15 42	49.396	14 27	20.83	4	9003	WQOMERA	5326 8	PB	7416		
	6 21	10 22	54.1551	1	20 37	50.534	7 26	34.31	4	9011	VILLA DOLO	2948 5	HY	7284		
	6 21	10 23	2.1565	1	20 41	19.107	8 12	39.82	4	9011	VILLA DOLO	2948 7	HY	7285		
	6 21	20 12	4.1482	1	21 8	53.556	2 6	3.46	4	9003	WQOMERA	5336 5	AY	7417		
	6 21	20 12	16.1500	1	21 15	43.613	3 30	40.49	4	9003	WQOMERA	5336 8	AY	9231		
	6 22	7 59	1.3501	1	0 29	9.899	- 2	4	22.45	4	9011	VILLA DOLO	2957 5	FI	1850	
	6 22	8 0	48.5723	1	1 0	18.161	8 6	22.25	4	9011	VILLA DOLO	2957 23	FI	2280		
	6 22	9 18	42.5504	3	15 30	42.421	16 31	24.30	4	9003	WQOMERA	5338 8	PB	7419		
	6 22	9 18	46.5519	1	15 32	28.021	16 6	37.54	4	9003	WQOMERA	5338 9	PB	7420		
	6 22	9 59	40.4315	1	21 4	30.173	13 58	34.59	4	9011	VILLA DOLO	2963 6	KA	1852		
	6 22	10 0	6.0363	1	21 16	17.859	16 33	19.20	4	9011	VILLA DOLO	2963 10	KA	1853		
	6 22	17 10	0.5095	1	13 41	7.903	13 40	28.14	4	9002	OLIFANTS	3496 3	SD	7411		
	6 22	17 10	8.5175	1	13 46	1.573	12 34	21.10	4	9002	OLIFANTS	3496 5	SD	7412		
	6 22	19 11	52.5502	1	10 38	39.76	-13 40	9.92	4	9002	OLIFANTS	3503 4	AY	7117		
	6 22	19 47	15.8993	1	20 54	36.397	- 1 58	52.99	4	9003	WQOMERA	5347 7	HY	7421		
	6 22	19 47	19.8990	1	20 57	2.594	- 1 29	47.29	4	9003	WQOMERA	5347 8	HY	7422		
	6 22	23 4	56.7372	1	14 40	37.709	18 29	6.62	4	9011	VILLA DOLO	2965 8	FI	7286		
	6 22	23 6	1.3367	1	15 14	45.865	11 13	39.99	4	9011	VILLA DOLO	2965 15	FI	283		
	6 22	23 7	8.9462	1	15 50	44.858	3 33	23.97	4	9011	VILLA DOLO	2965 21	FI	8884		
	6 23	3 42	56.6487	1	21 3	9.793	10 54	51.77	4	9002	OLIFANTS	3510 4	KA	7427		
	6 23	3 43	12.6683	1	2 10	50.059	12 47	28.03	4	9002	OLIFANTS	3510 8	KA	256		
	6 23	9 33	55.4187	1	2(22	1.747	5 5	12.04	4	9011	VILLA DOLO	2974 7	KA	7717		
	6 23	9 34	59.4258	1	20 53	28.353	11 48	22.88	4	9011	VILLA DOLO	2974 15	KA	7346		
	6 23	18 47	48.9171	1	10 36	16.686	-15 46	27.42	4	9002	OLIFANTS	3517 3	FI	7712		
	6 23	19 23	1.0044	1	21 1	41.221	- 2 12	7.79	4	9003	WQOMERA	5361 2	AY	7435		
	6 23	19 23	5.0040	1	21 4	13.546	- 1 41	30.59	4	9003	WQOMERA	5361 3	AY	7436		
	6 24	0 43	10.4909	1	11 53	50.660	-13 1	26.19	4	9011	VILLA DOLO	2983 1	KA	8394		
	6 24	0 43	57.9943	1	12 16	39.260	-20 36	24.32	4	9011	VILLA DOLO	2983 15	KA	7718		
	6 24	1 18	42.7476	1	1 7	23.106	- 2 35	18.07	4	9002	OLIFANTS	3520 10	FI	7429		
	6 24	3 19	2.1028	1	21 17	29.497	13 52	38.85	4	9002	OLIFANTS	3525 3	PB	7430		
	6 24	3 19	10.1288	1	21 21	34.453	14 50	37.33	4	9002	OLIFANTS	3525 5	PB	7431		
	6 24	9 9	6.6411	1	20 5	16.262	1 37	6.67	4	9011	VILLA DOLO	2988 4	HY	7347		
	6 24	9 9	14.6415	1	20 9	27.709	2 28	18.59	4	9011	VILLA DOLO	2988 6	HY	7348		
	6 24	10 32	53.5034	1	13 29	24.550	-16 55	17.44	4	9003	WQOMERA	5366 3	KA	8882		
	6 24	10 33	20.8727	1	13 51	16.007	-21 31	11.26	4	9003	WQOMERA	5366 8	KA	7438		
	6 25	0 15	27.4961	1	10 35	14.819	-33 20	8.10	4	9007	AREQUIPA	3507 9	SD	1750		
	6 25	0 15	41.5088	1	10 40	49.392	-35 51	47.19	4	9007	AREQUIPA	3507 16	SD	1751		
	6 25	0 19	24.5355	1	12 16	10.890	-18 5	59.89	4	9011	VILLA DOLO	2996 25	HY	7349		
	6 25	0 21	7.5862	1	13 31	52.579	-36 22	13.13	4	9011	VILLA DOLO	2996 42	HY	7350		
	6 25	8 46	35.2613	1	21 3	48.065	13 16	14.49	4	9011	VILLA DOLO	3000 9	HY	7288		

Satellite 1960 12

25-29 June 1961

DATE Y M D	TIME (A-1)			R.A.(1950.0)			DECL.(1950.0)			STATION	FRAME NO.	MS	OBS. NO.
	H	M	S	H	M	S	D	M	S				
1961 6 25	8 47 47.4909	1	21 41 13.954	20 48 50.09	4	9011 VILLA DOLO	3000	16	HY	7289			
6 25	10 11 9.8953	1	16 3 16.361	-36 3 32.07	4	9003 WOOMERA	5372	17	FR	7439			
6 25	10 11 21.8957	1	16 14 45.150	-36 58 21.74	4	9003 WOOMERA	5372	20	FR	7440			
6 25	23 51 14.2184	10	10 46 7.493	-35 37 4.08	4	9007 AREQUIPA	3519	20	SD	7444			
6 27	8 3 21.1628	1	1 2 22.972	.10 37 41.12	4	9007 AREQUIPA	3545	6	FR	7714			
6 27	17 11 51.5110	10	11 11 58.130	-30 42 51.80	4	9002 OLIFANTS	3533	3	AY	7432			
6 27	17 11 55.5200	10	11 14 13.920	-31 28 42.91	4	9002 OLIFANTS	3533	5	AY	7433			
6 28	22 42 18.2896	1	13 6 58.420	-16 54 33.54	4	9011 VILLA DOLO	3006	4	SY	7351			
6 28	22 43 22.7363	1	14 3 5.98	-26 32 57.71	4	9011 VILLA DOLO	3006	13	SY	7352			
6 29	9 16 58.4233	1	21 48 28.222	41 15 21.84	4	9007 AREQUIPA	3572	10	KA	1849			



NOTICE

This series of Special Reports was instituted under the supervision of Dr. F. L. Whipple, Director of the Astrophysical Observatory of the Smithsonian Institution, shortly after the launching of the first artificial earth satellite on October 4, 1957. Contributions come from the Staff of the Observatory. First issued to ensure the immediate dissemination of data for satellite tracking, the Reports have continued to provide a rapid distribution of catalogues of satellite observations, orbital information, and preliminary results of data analyses prior to formal publication in the appropriate journals.

Edited and produced under the supervision of Mrs. L. G. Boyd and Mr. E. N. Hayes, the Reports are indexed by the Science and Technology Division of the Library of Congress, and are regularly distributed to all institutions participating in the U. S. space research program and to individual scientists who request them from the Administrative Officer, Technical Information, Smithsonian Astrophysical Observatory, Cambridge 38, Massachusetts.

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